

**SECRETARY'S TASK FORCE ON
COMPETITION IN THE U.S.
DOMESTIC AIRLINE INDUSTRY**

International Air Service

EXECUTIVE SUMMARY

The primary purpose of this series of studies is to assess the level of competition between U.S. air carriers, with particular focus on changes in the degree of competition in service and fares in the domestic sector. However, our experience in the area of international air transportation strongly suggests that no study of domestic competition would be complete without examining the impact that the international sector may have on that competition. This is especially true given the tremendous growth in the number of passengers and communities receiving improved international air service since deregulation, and the fact that all of the major carriers which provide domestic service now also provide international operations.

With these considerations in mind, this section examines developments in the international sector between 1978 and 1988.. We discuss the expansion of air service between the United States and foreign points by describing the changes that have occurred in the overall international market during this period in its discrete subdivisions: the Atlantic, Pacific and Latin America subdivisions. We also focus on the impact that this dynamic process has had on the operations, financial position, and ultimately on the competitive positions of the major U.S. carriers. In this context, we review each major carrier's international operations in terms of traffic, market share, revenues and profits. This review allows us to assess the contribution that each carrier's international service makes to its overall system operations, and to compare the results for each carrier with those of its U.S. competitors.

Based on our analysis, we have identified two primary ways that international operations affect domestic competition. First is the impact of international operations on the financial position of air carriers and thus on the resources they may have available to compete effectively. Second is the impact of those operations on the competitive positions of airlines at major airports and in specific markets. In this area, we have examined the linkage between an airline's international operations and its access to traffic to support its domestic operations; the relationship between international service and concentration at airports; and how changes in international traffic flows over the past decade have affected competition among airlines.

BACKGROUND

An overview of the international transportation sector of the industry provides a general understanding of the level and scope of international operations.

Unlike the deregulated domestic air transportation system, competition in international air transportation continues to be governed by the Federal Aviation Act and bilateral agreements between the U.S. and foreign countries which to varying degrees place limits on entry, levels of service and fare initiatives.

Growth in the International Sector

Between **1978** and **1988**, international traffic, measured by revenue passenger miles as reported by U.S. carriers grew by **141%**, from **42.8** to **103.3** billion revenue passenger miles. Operating revenues from international service for major U.S. carriers over this period rose from **\$3.9** billion to **\$13.3** billion, an increase of **241%**.

The number of U.S. carriers serving international markets, the number of U.S. and foreign gateways served by these carriers and the percentage of total traffic carried by U.S.-flag carriers have all increased over the past decade, as shown in the following table.

Summary of International Operations, 1977 and 1988

<u>Entity/ Year</u>	<u>No. of U.S. Carriers</u>	<u>U.S. Gate- ways</u>	<u>Foreign Gateways</u>	<u>U.S. Carrier % of Market</u>
Atlantic				
1977	3	10	14	40%
1988	8	22	24	51%
Latin Am.				
1977	8	19	33	55%
1988	12	24	41	57%
Pacific				
1977	2	7	7	38%
1988	5	11	8	45%

Participation of U.S. Carriers

In **1988**, international passenger operations were provided by **27** U.S. carriers -- **10** major carriers, **4** national carriers, **9** regional carriers and **4** medium regional carriers.

Today, every major U.S. passenger carrier provides international service. American, Continental and Delta each provide service in all three international operating entities. Northwest, Pan American and **USAir** provide service in two international areas, and Eastern, **Trans** World and United in one.

With the exception of **USAir**, international operations are a significant part of each carrier's total **operations**.^{1/} In **1988**, international operations

- == accounted for **24%** of the revenue passenger miles flown and **22%** of the operating revenues of the major carriers, and

- produced over **\$900** million in operating profits for the major carriers, almost **29%** of total operating profits for this group.

In **1988**, the major carriers accounted for **92%** of the international revenue passenger miles flown by U.S. carriers and **95%** of international revenues. Their share of traffic over the past decade began at **98%** in **1978**, declined to a low of **80%** in **1982** when there were a number of new entrants providing international service, and has grown in every year since.

In **1988**, **98%** of the international revenue passenger miles flown by the major carriers were generated on scheduled service. Only **2%** were attributed to charter operations. In **1978**, charter operations accounted for **8%** of international revenue passenger miles for this group.

Operating Results

Except in **1980** and **1986**, operating profits from international operations of the major carriers have **outpaced** domestic operating profits, i.e. international operations contributed more profits (less losses) than their proportionate share of operations. Since **1978**, international operations of the major carriers have produced operating losses in only two years (**1980** and **1981**), whereas their domestic operations have had operating losses in five years (1979-1983). In six of the eight years since **1978** in which the major carriers recorded system operating profits, international operations contributed over **25%** of the operating profits, yet international operations have never accounted for **25%** of revenue passenger miles.

MARKET ANALYSIS

The overall international market has been characterized by uneven growth in terms of traffic (revenue-passenger-miles) and revenues over the past decade. Growth has been a function of economic developments as well as external factors such as terrorist

1/ Transborder operations, primarily to Canada and Mexico, are included in domestic operation reports of U.S. carriers. As a result, **transborder** markets are not included in the international data presented here. These markets account for a substantial amount of international traffic.

incidents. Annual growth in traffic has ranged from **-3.0%** in **1986**, a year adversely affected by terrorism and other events such as the Chernobyl accident in Europe, to an increase of **24.7%** in **1987**. Revenue growth has ranged from **0.7%** in **1982** to **26.7%** in **1987**. Of particular note, traffic and revenues both grew considerably in **1987** and **1988**.

In spite of the terrorist bombing of Pan American Flight **103** in December **1988**, international traffic during the first half of **1989** continued to grow. With the exception of Pan American's Atlantic division and Eastern's Latin America division, every other international operating entity for the major U.S. carriers showed an increase in traffic for the first half of **1989** over the first half of **1988**. Particularly strong traffic growth was reported by the carriers operating in the Pacific. On the other hand, a majority of international entities, including the Atlantic entity, reported a decline in fares for the first half of **1989** compared to the first half of **1988**. This decline was led by Pan American for its Atlantic entity (**-14.2%**)

International Market by Operating Entity

The Atlantic operating entity continues to be the largest international market, accounting for approximately **50%** of the major carriers' international traffic in **1988**. This is down slightly from a high of **54%** in **1985**. However the Atlantic entity has experienced annual traffic declines in several years since **1978** (**1980**, **1981** and **1986**). In absolute terms, the major carriers reported slightly more than twice as many revenue passenger miles in the Atlantic entity for **1988** than in **1978**.

The Pacific entity, on the other hand, has experienced larger and more steady traffic development. In **1988**, the Pacific registered more than three times the amount of traffic than it had in **1978**. Furthermore, it has grown from approximately one-fifth of all international traffic to one-third. Moreover, it experienced a traffic decline in only one year (**1981**) and that decline was only **1.1%**.

The Latin American entity accounted for **16%** of the major carriers' international traffic in **1988**. This is the second lowest percentage for this entity. Throughout the first half of the **1980's**, Latin America traffic was relatively stagnant. Since **1985**, however, it has grown at an average rate of approximately **15%**.

As for the percentage of operating revenues generated by each entity, in **1988** the Atlantic accounted for **46%** of operating revenues, Latin America **15%** and the Pacific **39%**. The Pacific has accounted for a greater share of operating revenues than traffic in each of the past three years, while the Atlantic entity has accounted for less than its proportionate traffic share. This

reflects the higher fare yields being realized on Pacific operations. In 1988,, the average yield per revenue passenger mile for the Pacific was 14.00 cents. This compared to 12.58 cents for Latin America and 11.04 for the Atlantic.

In terms of total operating profits, for the eleven-year period 1978-1988,, the major carriers reported cumulative international operating profits of \$2.647 billion. The Atlantic's share was \$1.190 billion, Latin America's share was \$322 million and the Pacific's share was \$1.135 billion. Thus, over the past decade, the Pacific has generated almost as much operating profit as the Atlantic.

The evidence for 1989 suggests that the importance of the Pacific market is growing. Pacific traffic was up 23% for the first half of 1989,, compared to an increase of 5% for the Atlantic and 2% for Latin America. Northwest, United and Continental account for over 95% of the traffic in the Pacific. During the first half of 1989,, their traffic was up 21,, 22 and 25 percent, respectively. Furthermore, yields continue to be higher for the Pacific.

International Market by Carrier

Each major carrier is affected differently by its international operations. A few observations about each carrier are therefore helpful to understanding the importance of international operations for each carrier and how international operations affect its competitive position.

American --

14% of its revenue passenger miles and 12% of its revenues are generated on international operations. It is the sixth largest U.S. international carrier, ahead of Delta, Eastern and USAir.. It is the third largest U.S. carrier in the Atlantic (11% of market), third largest in Latin America (22%),, and fourth largest in Pacific (2%).. The Atlantic is the largest entity for the carrier with over half of the carrier's international traffic. Despite rapid traffic growth for the Atlantic, American has not realized an operating profit for the Atlantic since 1985.. The carrier has posted only modest operating profits from overall international operations -- the largest being \$22 million in 1985.. In 1988,, it posted an international operating profit of only \$7 million on almost \$1 billion in revenues.

Continental --

22% of its revenue passenger miles and 19% of its revenues are generated on international operations. It is the fifth largest major international carrier. It is the

fourth largest U.S. carrier in the Atlantic **(8%)**, fourth largest in Latin America **(10%)**, and third largest in the Pacific **(13%)**. The Pacific accounts for **45%** of its international traffic, the Atlantic **40%** and Latin America **15%**. For the past two years, Continental has realized an operating profit on its international operations while its domestic operations have been unprofitable. In **1988**, the carrier had an operating profit of **\$170** million on its international operations and a loss of **\$87** million on its domestic operations. Furthermore, all of its international entities have recorded an operating profit each year since **1983**.

Delta --

11% of its revenue passenger miles and **10%** of its revenues are generated from international operations. It is the seventh largest of the nine international major carriers, ahead of only Eastern and **USAir**, although it has had steady and consistent growth since **1978**, when international operations only accounted for **3%** of its revenues. It is the fifth largest Atlantic carrier **(8%)**, the fifth largest Latin America carrier **(10%)** and the fourth largest Pacific carrier **(2%)**. However, it has recorded an operating profit in each of its international entities since **1983**. In **1988**, its international operating profits accounted for **17%** of its system operating profits. **Its** profitability is due in part to its above-average yields in each of the international entities.

Eastern --

12% of its revenue passenger miles and **12%** of its revenues are generated from international operations. The carrier is the next to the smallest major international carrier (only **USAir** is smaller). Eastern only provides international operations in the Latin America entity where it is the second largest carrier **(23%)** behind Pan American. Eastern's Latin America traffic was down **37%** during the first half of **1989** (during this time it filed for bankruptcy). Since it purchased Braniff's Latin America routes in **1982**, the carrier has experienced an overall operating loss for this entity. Its most profitable year was **1986** when it had an operating profit of **\$9** million.

Northwest --

41% of its revenue passenger miles and **39%** of its revenues are generated from international operations. The carrier is the second largest major international carrier (only Pan American is larger). It is the next to the smallest

carrier in the Atlantic (**7%** of market) -- only **USAir** is smaller -- and the largest carrier in the Pacific (**43%** of market). Over **90%** of the carrier's system operating profits came from its international operations in **1988**, with the Pacific accounting for **85%** of that amount.

Pan American --

78% of its revenue passenger miles and **78%** of its revenues are generated from international operations. The carrier is the largest international U.S. carrier, generating **50%** more revenue passenger miles than the second largest carrier Northwest. It is also the largest carrier in each of the operating entities in which it provides service -- Atlantic (**38%**) and Latin America (**35%**).. In the Atlantic, its share of traffic has declined from **47%** in **1978**, whereas in Latin America its market share has remained fairly stable. In **1988**, its international operations generated an operating profit of **\$76** million while its domestic operations sustained a loss of **\$181** million.

USAir (Piedmont) --

4% of its revenue passenger miles and **3%** of its revenues are generated by international operations, making it the smallest international carrier. These percentages are based on Piedmont's system revenue passenger miles and revenues. Inclusion of **USAir's** data would decrease both of these percentages. It is the smallest of the seven Atlantic carriers (**3%** of market) and the smallest of six Latin America carriers (**1%** of market). It reported an operating profit of **\$12** million from international operations in **1988**, less than five percent of its total operating profits.

Trans World --

39% of its revenue passenger miles and **36%** of its revenues are generated from international operations, making it the third largest international carrier between Northwest and United. It only operates in the Atlantic entity, where it is the second largest carrier (**29%** of market) behind Pan American. Its share of the Atlantic market has declined from **45%** in **1985**. However, in **1988**, **Trans** World accounted for over one-half of the industry's operating profits from the Atlantic (**\$147** million of (**\$265** million). **Trans** World has had profitable international operations in every year covered by this study (since **1978**), while its domestic operations recorded losses from **1979-1986**.

United --

18% of its revenue passenger miles and **20%** of its revenues are generated from its international operations, making it the fourth largest of the nine international major carriers. It only operates in the Pacific entity, where it is second behind Northwest with **40%** of the market. In **1988**, its Pacific division generated over **\$200** million in operating profits, over **30%** of the carrier's total operating profits. For the past two years, the carrier has experienced traffic growth of over **20%** per year on its Pacific service.

EFFECT OF INTERNATIONAL OPERATIONS ON SERVICE COMPETITION

We have approached this subject by examining the impact of international operations on competition at major U.S. airports and in specific markets.

Airport Impact

Our survey indicates that international operations affect domestic competition by contributing to the viability of flights operated over routes served from major U.S. airports and by influencing the competitive position of airlines at those airports. In this regard, international operations have both improved the competitive position of the non-dominant domestic carriers at a number of airports and have reinforced the competitive positions of the dominant domestic carriers at others.

Virtually all airlines offering international service have attempted to design their system operations to provide convenient single-carrier flights for passengers traveling between interior U.S. points and foreign points via the airlines' international gateways. These flights provide feed traffic for the international trip and, equally important, additional traffic to support the domestic leg of that trip.

Carrier operations to and from their international gateways are strengthened to the extent that they flow international traffic from interior points over these gateways.

As to the impact of international operations on concentration at major airports, our analysis shows:

- * None of the top **10** international airports based on international **enplanements** is a highly concentrated hub (i.e., one carrier having more than **75** percent of total **enplanements**)). The top ten international airports account for **88%** of international **enplanements** at the **22** largest U.S. international airports.

- * At **12** of the nation's **22** largest international airports, international traffic is a major portion of the operations of a non-dominant domestic carrier at that airport. At these airports, the international operations of these carriers have improved their ability to compete with the dominant domestic carrier in domestic city-pair markets served by the airports.
- * At the remaining **10** of these airports, the dominant domestic carrier is also the dominant international carrier. At these hubs, international operations complement and reinforce the strength of the dominant domestic carrier at the airport.

Market Impact

We examined changes in two major international markets over the past ten years to determine what changes are **occurring** in the structure of international markets and how these changes affect the competitive relationship between U.S. carriers. Specifically, we looked at the extremely large U.S.-London and U.S.-Tokyo markets.

During the **1980's**, the United States pursued an international aviation policy of expanding service opportunities and negotiated new service rights in both of these major markets that have led to new international route awards and service. These changes have had an impact on competition both in the international air **transportation** market and in the U.S. air transportation industry.

In both of these cases (London and Tokyo), we have experienced an increase in the number of U.S. carriers providing direct service from the U.S. and the number of nonstop U.S. gateways. These changes are having a significant effect upon the structure of the air transportation market and the role of individual carriers. Based on the limited markets examined, the evidence suggests that:

- * The increase in the number of gateways and carriers has resulted in a substantial increase in traffic in the market, particularly from interior U.S. communities with previously low levels of traffic. These traffic increases may be attributable, in part, to the greater marketing presence at interior communities for new international carriers and to the greater availability of on-line service.
- * A greater percentage of international passengers are now transported from their origin to their final destination by only one carrier (i.e., the amount of inter-line connections has declined). This situation has put competitive pressure on carriers to seek and serve international routes in order to protect or expand their market share.

- * For the U.S.-London market there appears to be more competition between U.S. carriers in those city-pair markets that were served nonstop in both **1978** and **1988**. In general, the dominant U.S. carriers' share of these markets declined over the period and other U.S. carriers garnered larger market shares. There appears to be less competition between U.S. carriers in **city-pair** markets that are new gateways. At these gateways the new international authority tended to be awarded to the dominant domestic carrier at the airport and that carrier has obtained a large share of the international traffic. There appears to be substantially more competition in non-gateway city-pair markets (interior U.S. points to/from London) as the opening of new gateways has increased service opportunities for passengers at these interior communities.
- * For the U.S.-Tokyo market, as of **1988** there does not appear to be any significant increase in the degree of competition between U.S. carriers for share of the market. This may be due in part to the fact that bilateral considerations have substantially limited the number of new gateways and the service that may be provided at those gateways. Until **1987**, only two U.S. carriers provided service between the U.S. mainland and Japan. Since then, three U.S. carriers have been added -- American, Delta and Continental -- and the number of gateways has increased. Thus, with additional service opportunities (additional carriers, gateways and frequencies) and time to develop those service alternatives, we would expect greater competition following the pattern of the London market.
- * Traffic patterns and the structure of the international markets under review have been affected by a number of developments, including the increase in the number of U.S. carriers providing direct service in the markets, the number of communities receiving such service, and the ability of these carriers to offer broad geographic coverage in the United States. These developments have served to increase the total number of passengers receiving single-plane service, and the percentage of passengers receiving this service in comparison to **two-carrier** connecting service. The increase in the on-line service in international travel has (a) decreased foreign-flag carriers' share of connecting markets, and (b) decreased the overall market share of those U.S. carriers operating as feed carriers for the foreign carriers.

International Air Service

Table of Contents

	<u>Page</u>
I. Introduction and Approach	1
II. Background and Overview	4
III. Analysis of Effects of International Financial and Operating Results	7
IV. Analysis of Effect of International Operations on Service Competition	22
Appendix A	29
Table III-1 through 39	33
Table IV-1-5	96

I. Introduction and Approach

The primary purpose of the series of studies of which this is a part is to assess competition between carriers in the domestic U.S. air transportation industry, focusing on the changes in the degree of competition in service and fares since deregulation and the factors affecting the ability or inability of carriers to compete.

However, given the magnitude of the international air transportation market and the fact that all of the major U.S. domestic passenger air carriers participate in that market, any comprehensive study of competition among carriers must also look at and take into account the international sector of the industry. This study addresses the issue of the impact of international operations on U.S. air carrier domestic competition, focusing on two primary ways that international operations affect U.S. air carriers' competitive position.

First is the impact of international operations on the financial position of air carriers and thus the availability of resources to enable them to compete effectively. To the degree that international operations add to or detract from a carrier's financial wherewithal, that carrier will be in a stronger or weaker position from which to compete with other air carriers in the domestic system. To illustrate this point, in **1988** both Continental and Northwest earned substantial operating profits on their Pacific operations (**\$110** million and **\$154** million, respectively). Their domestic operations were far less successful financially: Continental had an operating loss of **\$87** million and Northwest had an operating profit of **\$19** million. Consequently, the ability of Continental and Northwest to compete in the domestic market was substantially aided by their profitable international operations.

Second is the impact of international operations on service competition. In general, international operations increase the efficiency of an airline's overall operations by reducing unit costs of overhead expense and by reducing average costs through economies of scale and greater utilization of facilities and equipment. Moreover, international operations provide feed traffic for domestic flights aligned with international flights. This traffic helps to support the viability of domestic flights and therefore strengthens an airline's ability to compete against other carriers operating in the same domestic market. Indeed, some domestic flights would not be offered in the absence of associated international operations.

Over the past decade, new U.S. gateways have been added to the international route system. These gateways have often been major **hubbing** complexes for the carriers obtaining the new international routes. If not, the carrier obtaining the new route has often increased its level of domestic operations serving the gateway in order to provide additional traffic feed for its new international

service. As a result, the development of additional U.S. gateways for international operations has had a direct impact on the domestic service structure and competition. Thus, the study will also look at the growth and development of alternative U.S. gateways (specifically in the European and Japanese markets), and how this has affected the distribution and flow of international traffic and feed traffic over domestic **routings** (intergateway competition).

Our analysis of the financial effects of international service begins with a presentation of data showing the size and growth of the international market for the major U.S. carriers for the period **1978-1988**. We discuss the expansion of air service between the United States and foreign points by describing the changes that have **occured** in the overall international market during this period and in its subdivisions: the Atlantic, Pacific, and Latin America entities. We also focus on the impact that this dynamic process has had on the operations, financial position and, ultimately, on the competitive positions of the major U.S. carriers. In this context, we review each major carrier's revenues and profits. This review allows us to assess the contribution that each carrier's international service makes to its overall system operations and to compare the results for each carrier with those of its U.S. competitors.

Our analysis of the relationship between international operations and service competition considers the impact of international operations on the competitive positions of the airlines at major airports. We provide data describing the growth of international operations at those airports over the past decade. This data provides a basis for discussing the contribution that international feed traffic makes to the support of domestic flights and for examining the relationship between international service and concentration at major airports. Finally, we examine changes in two major international markets (U.S.-London and **U.S.-Tokyo**) over the past ten years to determine what changes have **occured** in these major international markets and how these changes have affected the competitive position of U.S. carriers.

It should also be noted that this section of the study focuses on the operations of those "major" carriers providing scheduled passenger service. The major carriers are those with annual operating revenues of at least **\$1** billion, and include American, Continental, Delta, Eastern, Northwest, Pan American, **Trans** World, United and **USAir**.. We have concentrated on the operations of this group because it has a decisive impact on domestic competition and because each member of the group now serves international markets.

Since our primary interest here is on obtaining a better understanding of the impact of international operations on competition in the domestic scheduled market, we have not conducted an in depth examination of the cargo or charter service markets. For

similar reasons, we have not provided a comprehensive review of competition among U.S. carriers in the international air transportation market. We intend to undertake that review in the coming year. In that study, we will look at the structure of the international transportation system at the beginning of the 1980's and the changes that have occurred over the past decade. We will assess competition both among U.S. carriers and between U.S. and foreign-flag carriers. We will look at the results of our efforts over the past decade to increase service and fare competition in the international market. The findings in that study will be helpful in shaping our international air transportation policies for the 1990's..

Before turning to the substance of this section, a few comments about the data for international operations must be made. There are several different sources of data on international operations, including Immigration and Naturalization Service (INS) data, U.S. air carrier service segment data and O&D traffic data filed with the Department, U.S. carrier Form 41 data (traffic and financial) filed with the Department, and air carrier statistics available from international air carrier associations and foreign carriers. The Department's data for international operations (service segment, O&D and Form 41) is limited to U.S. carriers, and thus does not provide information on the total international market. The Department has recently issued a rule requiring foreign carriers to start filing international traffic data, but such data is not yet available. INS data, which does include foreign carrier traffic, does not provide beyond gateway market information. Similarly, information available from international air carrier organizations is not as detailed or complete. Thus, there are limitations with each of the data bases available for analyzing international air transportation. Furthermore, as a result, there may appear to be differences in what should be comparable data from these sources.

In these circumstances, we have relied primarily on one source of information for our analysis: the detailed reports filed by the U.S. carriers with the Department. This approach provides a uniform and consistent basis for preparing this section of the study, and equally important, is the most useful considering the purposes of our review. In this connection, it is significant that, despite its limitations, the Department's data for international operations covers all international traffic carried solely or partly by U.S. carriers and therefore allows us to conduct a reliable and comprehensive review of the impact of international operations on domestic competition.

Finally, due to the methodology of our reporting requirements, U.S. carriers include data for U.S.-Canada operations, one of the largest U.S. international markets, in their domestic entity Form 41 filings. This results in an unavoidable distortion of our analysis to some degree by enlarging domestic operations and reducing overall international operations.

II. Background and Overview

The past decade has seen considerable change in the structure of international operations, both in terms of the carriers providing service and the routes being operated. These changes have been due to many factors, including increased demand for international air service; U.S. government policy initiatives which have sought to provide airlines with the opportunity to serve and develop international markets; and changing attitudes on the part of foreign governments as to the extent to which international air transportation should be regulated. It is important to note in this regard that international air transportation, unlike the deregulated domestic air transportation system, continues to be governed by bilateral arrangements (especially agreements) which, to varying degrees, place limits on entry, levels of service and fare initiatives.

Appendix A provides a review of historical developments in the two major U.S. international markets -- Europe and the Pacific -- discussing the participation of both U.S. and foreign carriers in these major regions.

A brief examination of several key indicators illustrates the extent of the changes in the size of the international air transportation market over the past decade.

Passengers on U.S. Flag International Nonstop Flights (millions)

<u>Year</u>	<u>Europe</u>	<u>Latin Am.</u>	<u>Pacific</u>
1977	3.3	5.8	1.2
1988	10.8	12.4	4.8

International Revenue Passenger Miles for All U.S. Certificated Carriers

<u>Year</u>	<u>RPMS ((000))</u>
1977	42,862,808
1984	68,817,251
1988	103,257,192

U.S. Air Carrier Total Operating Revenues From International Operations

<u>Year</u>	<u>Revenues (millions)</u>
1977	\$3,930
1984	\$7,975
1988	\$13,332

Moreover, there has been substantial changes in the structure of the market as depicted by the following data on the number of U.S. and foreign air carriers providing service in each operating entity, the number of gateways served by U.S. carriers, and the U.S.-flag carriers' participation in the markets.

Europe --

<u>Year</u>	<u>U.S. Carriers</u>	<u>Foreign Carriers</u>	<u>U.S. Gateways</u>	<u>Foreign Gateways</u>	<u>U.S. Flag Traffic</u>
1977	3	21	10	14	39.8%
1984	11	19	16	15	47.7%
1988	8	24	22	24	50.6%

Latin America --

<u>Year</u>	<u>U.S. Carriers</u>	<u>Foreign Carriers</u>	<u>U.S. Gateways</u>	<u>Foreign Gateways</u>	<u>U.S. Flag Traffic</u>
1977	8	26	19	33	55.4%
1988	12	35	24	41	56.5%

Pacific --

<u>Year</u>	<u>U.S. Carriers</u>	<u>Foreign Carriers</u>	<u>U.S. Gateways</u>	<u>Foreign Gateways</u>	<u>U.S. Flag Traffic</u>
1977	2	9	7	7	37.9%
1984	5	13	7	9	41.0%
1988	5	17	11	8	44.8%

(Note: The number of gateways cited in the above tables, both U.S. and foreign, are those served by U.S. carriers.)

As can be seen from these data, the number of U.S. carriers participating in the international air transportation market and the number of U.S. gateways from which U.S. carriers are operating international flights have increased considerably. The result of these developments has been to disperse international traffic and revenues more widely throughout the industry. It has also been to alter traffic patterns, since the new U.S. gateways have provided direct access to international flights, without the requirement for connections over domestic routes, for a substantially larger portion of major international markets. For example, in 1977, there was nonstop service between the U.S. and London from nine U.S. gateways. Those gateway communities accounted for 48.7% of the U.S.-London market reported by U.S. carriers in the Origin-Destination Survey. In 1988, there was nonstop service from 21 U.S. gateways, which accounted for 71.7% of the U.S.-London market.

In **1988**, international passenger operations were provided by **27** U.S. carriers -- **10** major carriers, 4 national carriers, 9 large regional carriers and 4 medium regional carriers. However, the overwhelming majority of traffic was carried by the major carriers. As Tables **III-5** and **III-6** depict, the major carriers accounted for **92** percent of the international revenue passenger miles flown by U.S. carriers and **95** percent of international revenues in **1988**. Interestingly, the major carriers' share of traffic over the past decade began at a higher level, **98** percent in **1978**, declined to a low of **80** percent in **1982** when there were a number of new entrants providing international service, and has grown in every year since.

Every major passenger carrier provides international service. American, Continental and Delta each provide service in all three international operating areas -- Atlantic, Latin America and Pacific. Northwest, Pan American and **USAir** provide service in two international areas, and Eastern, **Trans** World and United in one. With the exception of **USAir**, international operations are a significant part of each carrier's total operations.

The international operations of major carriers constitute a significant portion of their total system operations. In **1988**, for example, international operations accounted for **24%** of the revenue passenger miles flown and **22%** of the operating revenues of the major carriers. Furthermore, international operations produced over **\$900** million in operating profits for the major carriers, almost **29%** of total operating profits for this group.

As discussed in the next part of this study, however, the level and importance of international operations to individual carriers vary considerably. To illustrate, three carriers -- Northwest, Pan American and **Trans** World -- obtain more than a third of their operating revenues from international service, while two (Delta and **USAir**) receive less than **10** percent. Similarly, **11%** of Delta's system revenue passenger miles come from international operations compared to **78%** of Pan **American's**.

III. Analysis of Effects of International Financial and Operating Results

This part of the study examines the impact of international operations on the major carriers. We examine this subject to analyze the contribution those operations make to the group as a whole and to analyze the relative importance of those operations to each member of the group. In order to place our analysis in perspective, we begin by discussing changes in the size and composition of the overall international market and its subdivisions.

Overall International Market

In 1988, U.S. carriers reported 103.3 billion revenue passenger miles in international operations. This was up 76% from the level in 1981.^{1/} (Table III-1) Total revenues from international operations for U.S. carriers amounted to \$13.3 billion in 1988. This compared to \$6.4 billion in 1981, for an increase of 109%. (Table III-2))

Tables III-1 and III-2 also show the changes in revenue passenger miles and total revenues on an annual basis since 1978. Most noticeable are the large increases in traffic and revenues for international operations between 1986 and 1988. These large percentage increases were due in part to the fact that traffic in 1986 was down from the previous year because of terrorist activities and the Chernobyl incident in Europe. However, even after taking these circumstances into account, the growth in international operations for U.S. carriers over the decade, and particularly in recent years, is remarkable.

Tables III-3 and III-4 show a comparison of revenue passenger miles and total revenues between international operations and total operations for U.S. carriers between 1978 and 1988. This provides an understanding of the relative size of the international market for U.S. carriers compared to their overall operations. As can be seen from these charts, international operations for all U.S. carriers account for almost a quarter of total revenues passenger miles and over one-fifth of total revenues. More importantly, over the past couple of years, international operations are growing as a percent of total operations. If this trend continues, international operations will play an increasingly significant role in competition among carriers.

^{1/} Starting in 1981, U.S. carriers started reporting data for **their** Puerto Rico and U.S. Virgin Island operations as part of their domestic entities. Prior to this time, these operations were reported as part of the Latin America entity. As a result, comparisons of operating results for 1988 with years prior to 1981 are not appropriate, and we have limited historical comparisons for overall and Latin America operations to 1988 versus 1981.

As noted earlier, the international traffic cited in the **preceeding** paragraph does not depict the entire international air transportation market, since it does not include traffic of foreign carriers, which constitutes a significant portion of a number of markets. In the Pacific entity, foreign-flag carriers transport approximately **55** percent of the U.S.-Asia traffic, while in the Atlantic entity they carry almost **50** percent. From this data, it can be seen that the overall international air transportation market is substantially larger than the size of the U.S. carrier market. Given these circumstances, the potential for traffic growth by individual U.S. carriers in the international air transportation market is substantial.

Major Carriers' International Operations

In **1988**, the major carriers recorded **94.6** billion revenue passenger miles in international service or **24.1%** of their total system-wide revenue passenger miles. (Table **III-7**) This was almost twice the number of revenue passenger miles for this class of carriers in **1978**, although this comparison is somewhat distorted by the change in reporting for Puerto Rico/Virgin Island data in **1981**. (Table **III-8**) The growth in revenue passenger miles over the past decade has been erratic, however, due to a number of circumstances. Traffic declined in the early **1980's**, probably as a result of weak economic conditions, and started to grow in the mid **1980's** until **1986**, when traffic declined from the **preceeding** year due to terrorist activities and external factors that reduced travel (Chernobyl). In **1987** and **1988**, there was strong growth in international traffic, reflecting favorable economic conditions. In spite of the terrorist aircraft bombing in December **1988**, overall international traffic for the first half of **1989** compared to the first half of **1988** shows a **10.7%** increase. (Table **III-9**)

In terms of capacity, as measured by available ton miles (ATM's), the major carriers have consistently increased their available capacity in international operations, even during years of negative or flat traffic growth. (Table **III-10**) In **1988**, **26.6%** of the total number of ATM's flown by the major carriers were provided in international operations. Moreover, since **1981**, these carriers have doubled the number of international ATM's being operated. Over the same period, the number of aircraft departures performed by the major carriers in international operations rose by **71%**. (Table **III-11**) The average overall flight stage length for the major carriers' international scheduled operations increased from **1611** to **1780** miles for this time period, and the average size of aircraft operated has declined. As for the total revenue aircraft miles flown, the major carriers flew **537,877** aircraft miles in international service in **1988** or **14.6%** of their system-wide aircraft mileage. In **1978**, the international aircraft mileage was **328,183** or **15.1%** of their system-wide aircraft mileage.

As for the financial significance of the international market, in **1988** revenues for international operations accounted for **22.1%** of total operating revenues for the major carriers. This is the highest percentage of total revenues for any year in the **1980's**. (Table **III-12**) Furthermore, international operation revenues experienced significant growth in **1987** and **1988**, and are now three times their level in **1978**. The profitability of international operations is also an important indicator. Table **III-13** shows the major carriers' operating profits from international operations and total system operations from **1978** through **1988**. Except in **1986**, when international operations were adversely affected by a downturn in traffic due to external factors, international operations have accounted for approximately **25%** of the system operating profits of the major carriers over the past five years. Moreover, U.S. carriers have recorded operating profits on their international operations in nine of the last eleven years. U.S. major carrier domestic operations, on the other hand, have experienced operating losses in five of the last eleven years (**1979-1983**). Since **1978**, U.S. carriers have earned operating profits from international operations of over **\$3** billion, or **31** percent of their total operating profits during this period. Thus, over this eleven-year period international operations have been more consistently profitable for U.S. carriers than domestic operations.

There are two further aspects of the total major carrier international market that warrant examination. The first is the distribution of international traffic between the different geographical areas. A review of traffic and financial data by operating entity will provide a better understanding of the relative importance of the three international operating areas. The second is an examination of the level of scheduled versus non-scheduled (charter) traffic and how this has changed since **1978**.

Table **III-14** shows the relative sizes of the three international operating entity markets -- Atlantic, Latin America and Pacific -- as measured in revenue passenger miles for the period **1978** through **1988**. Throughout this period, the Atlantic entity has been the primary international market, consistently accounting for approximately half of all international traffic. However, its relative position compared to the Pacific has declined over the years. In **1978**, the Atlantic had two and one-half times the amount of traffic as the Pacific, while in **1988** it only had **50** percent more.

As for revenues and operating profit/losses, in **1988** the Atlantic entity accounted for **45.6** percent of total international operating revenues, Latin America **14.9** percent and the Pacific **39.4** percent. Over the past decade, the Atlantic entity's share of international operating revenues has remained relatively constant, while the share accounted for by Latin American operations has declined and the share for Pacific operations has increased. (Table **III-15**)

This underscores the growing importance of Pacific operations. Table **III-16** shows the combined profitability of operations for all major carriers in each operating entity from **1978** through **1988**. In only four of these eleven years have operations in all three operating entities been profitable -- **1978, 1985, 1987** and **1988**. In **1988**, the Pacific entity accounted for over **55** percent of international operating profits, the Atlantic for **31** percent and Latin America **13** percent.

In the Atlantic entity, the largest geographic international market, traffic has more than doubled since **1978**, from **23** million to **48** million revenue passenger miles. Furthermore, with the exception of **1986**, Atlantic traffic has grown more than **10** percent in each year since **1982**. As for the number of carriers operating ~~trans-Atlantic~~ service, in **1978** there were five major (trunk) carriers and now there are seven. (See Table **III-17** for annual traffic and major carriers serving from **1978** to **1988**.)

In the Latin America entity, the smallest geographic market, traffic remained relatively static during the **mid-1980's** and did not experience significant growth until **1986**, when it grew almost **20** percent in one year. (See Table **III-18**.) While the growth rate declined in each of the succeeding two years, in **1988** traffic was still growing by more than **10** percent. As for the carriers serving Latin America, four major carriers have served Latin America through the period under study -- American, Delta, Eastern and Pan American. Two other major carriers -- Continental and Piedmont -- are also now providing Latin America service. The major development during this period regarding service was Eastern's acquisition of Braniff's extensive Latin America routes in **1982**.

In the Pacific entity, traffic has grown in every year since **1978** except in **1981** when it declined a modest **1** percent. Over the eleven-year period, traffic has increased **226** percent. Most remarkably, in each of the past two years traffic has grown over **20** percent, resulting in more than a **50** percent increase in traffic in just two years. (Table **III-19**) In **1978** there were only three major carriers providing service -- Continental, Northwest and Pan American. Now there are five -- American, Continental, Delta, Northwest and United. The major development with respect to the industry structure in the Pacific entity was United's purchase of Pan American's Pacific division in **1986**.

An examination of the amount of non-scheduled international traffic carried by the major carriers indicates that the international market is almost completely accommodated on scheduled flights. Table **III-20** shows the breakdown between scheduled and non-scheduled revenue passenger miles for the major carriers for each year from **1978** through **1988**. At the beginning of this period, non-scheduled traffic accounted for **8.3** percent of the total international revenue passenger miles flown by the major carriers. Since **1980**, non-scheduled traffic has never accounted

for more than **3.1** percent of total traffic, and in **1988** it accounted for only **2.3** percent. This reflects the fact that with the increased fare and service options that have become available on scheduled flights, the market for charter service has declined.

Analysis of International Operations by Carrier

We will address this section in two steps. First, we will examine the importance of international operations as part of each carrier's overall operations. Then we will examine the relative importance of international operations between carriers.

Table **III-21** shows the percentage of each major carrier's system revenue passenger miles that is accounted for by international traffic. This table clearly depicts the varying importance of international operations to the individual major carriers. In **1988**, international operations accounted for over three quarters of Pan American's systemwide traffic and approximately **40** percent for both Northwest and **Trans** World. At the other extreme, international operations accounted for only **3.9** percent of total revenue passenger miles of Piedmont (now part of **USAir**)..

Not surprisingly, a review of operating revenues provides a similar picture. (See Table **III-22**.) Operating revenues from international service account for **78** percent of Pan American's total operating revenues, and **39** and **36** percent of the operating revenues of Northwest and **Trans** World, respectively. On the other hand, they account for less than **10** percent of the operating revenues of Delta (**9.6** percent) and Piedmont (**2.6** percent).

A review of international operating revenues as a percentage of total operating revenues for each carrier from **1978** through **1988** provides a perspective of how the relative importance of international operations has changed for each carrier. These data are provided in Table **III-23**. Three carriers have experienced a substantial relative growth in the percentage of revenues attributable to international operations over this period. These are Continental, whose international revenues grew from only **3.3** percent of total revenues in **1978** to **19.1** percent in **1988**, Delta, whose percentage grew from **3.1** percent in **1978** to **9.6** percent in **1988**, and United which did not have any international operations at the beginning of the period and whose international operations accounted for **20%** of its total revenues in **1988**. Northwest also had a large growth, from **29.1** percent to **39.3** percent, but this did not represent as great a relative change. On the other hand, only one carrier experienced a significant decline in the percentage of revenues attributable to international operations -- Pan American, whose percentage declined from **92.5** percent in **1978** to **77.6** percent in **1988**.

To highlight the changing importance of international operations for the nine major carriers providing such service in **1988**, in **1978** two of these carriers (Piedmont and United) were not providing any international service and two others (Continental and Delta) derived less than 5 percent of their total revenues from international operations. By **1988**, only one carrier (Piedmont) derived less than 5 percent of its revenues from international operations, and it had only begun international service in **1987**.

Moreover, by **1988** six of these nine carriers were deriving over twenty percent of their revenues from international operations compared to three of these carriers in **1978**.

During this period, however, two of the nine carriers providing international service in **1988** had experienced a decline in the percentage of their revenues accruing from international operations since **1978**. These were Eastern, which was contracting its operations in general, and Pan American, whose operations in **1978** were almost totally international.

Table **III-24** shows the importance of international profits both for the major carriers as a class and for the individual carriers. For all the major carriers providing international passenger service, international operations accounted for over one-third of their operating profits as a group. Only one of the nine carriers (Eastern) experienced an operating loss on its international operations, while three carriers had losses on domestic operations (Continental, Eastern and Pan American), and five carriers performed better on their international operations than on their domestic operations (Continental, Eastern, Northwest, Pan American and **Trans** World).

A review of each major carrier's international operations in terms of traffic and market share over the past decade depicts the importance of these operations for each carrier as well as the potential for future developments. The following narratives for each carrier draw upon the data presented in the attached tables as noted: Table **III-25** presents a breakdown by operating entity of each carrier's international traffic as measured by revenue passenger miles for **1988**; Table **III-26** presents for each carrier revenue passenger miles for each operating entity from **1978** through **1988** and the annual growth in each entity; Tables **III-27**, **28**, and **29** show the percentage of traffic for each carrier in the Atlantic, Latin America and Pacific Entities, respectively, from **1978** through **1988**.

Major Carriers' Traffic and Market Share

American -- In **1988**, American registered **13.6** percent of its total revenue passenger miles in international operations. It was the sixth largest U.S. international carrier based on both the number of revenue passenger miles and the percentage of total traffic

attributable to international operations. Over half of its international traffic is in the Atlantic entity, which it only began serving in **1982**. Since then its transatlantic traffic has grown at an average annual rate of **61** percent. It has provided service in its second largest entity -- Latin America -- throughout the period under study. Since **1981**, its traffic in Latin America has grown at an average annual rate of 6 percent. American inaugurated service in the Pacific in **1987** and currently provides service on only one route to Tokyo although it was recently selected for award of a new route to Australia. As a result, its Pacific entity accounted for less than 1 percent of its system-wide revenue passenger miles.

As for its relative position to other carriers in each operating entity, American is the third largest U.S. carrier in transatlantic service with **11** percent of the market in **1988**, the third largest U.S. carrier to Latin America with **22** percent of the market, and the smallest of the five U.S. carriers in the Pacific with just under 2 percent of the Pacific traffic.

Continental In **1988**, Continental registered **22.4** percent of its system-wide revenue passenger miles in international operations. Continental was the fifth largest U.S. carrier in international traffic. As noted earlier, Continental has experienced one of the largest relative increases in the proportion of its traffic that is generated on international service. This is due in part to the acquisition of People's Express which had a sizable Atlantic operation. Nonetheless, Continental has registered sizable traffic increases annually in both its Latin America and Pacific entities since **1983** as well as large increases in its Atlantic traffic since **1985** when it inaugurated transatlantic service.

The Pacific entity is the largest international area for Continental, accounting for **45** percent of its international traffic and almost **10** percent of its total system-wide revenue passenger miles. The Atlantic is second largest with almost **40** percent of the carrier's international traffic and 9 percent of its total revenue passenger miles. Latin America is the smallest with **16** percent and 4 percent, respectively. In terms of competitive position with other carriers, Continental, with substantial operations to Australia/New Zealand, is the third largest U.S. carrier, with **13** percent of the region's market. In the Atlantic, it is the fourth largest carrier, with only **7.6** percent of the region's traffic, and only slightly ahead of Delta. In Latin America, where it has substantial Mexico operations, the carrier is also the fourth largest carrier with **9.9** percent of the region's market. Once again it is only slightly ahead of Delta in traffic.

Delta -- Of the large major carriers, Delta has the smallest international operations both in terms of revenue passenger miles (**5.8** million) and percentage of its system attributable to international operations (**11.1** percent). Of the international

major carriers, only **USAir** is smaller. However, Delta is now operating in all three international entities and is experiencing rapid traffic growth in all three. Its largest international market is in the Atlantic, which accounts for **63** percent of its international market. Latin America, which experienced considerable growth in **1987** when Delta incorporated Western's Latin America operations into its system, is second with **25** percent, and the Pacific is third with **12** percent. It has only been providing service in the Pacific since **1987** and its route structure there is limited to one route, Portland-Tokyo. At present, Delta does not play a dominant role in any international region, being the fifth largest U.S. carrier in each of the operating regions.

Eastern -- Eastern currently has international operations only in the Latin America entity. These operations are a combination of its long-term Caribbean/Central America service and the South America routes it obtained from Braniff in **1982**. Its international operations (Latin America) account for **11.8** percent of its total revenue passenger miles, and the carrier has not experienced much growth in its traffic: since **1983** its Latin America traffic has only grown **13** percent. Nonetheless, it is the second largest U.S. carrier in Latin America, behind Pan American and slightly ahead of American which has expanded considerably in the Caribbean.

Northwest -- International operations are significant for Northwest, accounting for **40** percent of its total revenue passenger miles. It is the second largest U.S. carrier in terms of both revenue passenger miles (**16.5** million) and the percentage of its traffic attributable to international operations. It is the largest U.S. carrier in the Pacific entity with **43** percent of all U.S. carrier traffic in the region, slightly more than United (**40** percent). Its Pacific operations account for **81** percent of its international traffic. It also operates transatlantic service, but there it is next to the smallest with only 7 percent of the regional market. Most notable, Northwest has experienced traffic growth in every year since it began transatlantic service in **1979** and in the Pacific for all years covered by this study. Moreover, despite its considerable size and market share in the Pacific, it has experienced double digit growth in ten of the last twelve years.

Pan American -- Pan American is the largest U.S. international carrier with over **23** million revenue passenger miles, which was **40** percent more traffic than the-next largest carrier, Northwest. In addition, the overwhelming importance of international operations to Pan American is indicated by the fact that over three quarters of its system revenue passenger miles **are generated** in international operations. No other carrier relies on international operations for a majority of its traffic.

Since it sold its Pacific Division to United in 1986,, Pan American has only operated in the Atlantic and Latin America entities, where it has the largest market share of any U.S. carrier -- 38 percent for the Atlantic and 35 percent for Latin America. Its major U.S. competitor in Latin America is Eastern. The second largest U.S. carrier in the Atlantic is Trans World. While Pan American has been able to hold its share of traffic in the Latin America entity during the 1980's,, its share of the Atlantic market has declined from 47 percent in 1978 to 38 percent in 1988.. However, since the overall Atlantic market has increased considerably, the carrier's 1988 Atlantic traffic was up more than 50 percent from 1978..

After the bombing of a Pan American plane in December 1988,, the carrier experienced a decline in its transatlantic traffic. (See Table III-30..)) For the first six months of 1989 compared to the same period of 1988,, Pan American had a 7.6 percent decline in revenue passenger miles over the Atlantic. It was the only U.S. carrier to experience a decline in traffic over the Atlantic based on a comparison of these periods. Furthermore, its yields for its Atlantic entity fell sharply, by more than 14 percent. (See Table III-31..)) Although every U.S. carrier with the exception of USAir (Piedmont) experienced a decline in Atlantic yields for this period, Pan American's percentage decline was almost twice as great as the next carrier's decline (Northwest with 7.3 percent).

USAir -- USAir (which has owned Piedmont since 1987 and recently merged the two carriers) is a relative newcomer to international service. Piedmont has been operating one route over the Atlantic since 1987 and has limited Latin America service, which it also began in 1987.. Only 3.9 percent of the carrier's system-wide revenue passenger miles were attributed to international operations in 1988.. Piedmont is by far the smallest U.S. carrier in each of these operating entities, accounting for less than one percent of the total revenue passenger miles in each.

Trans World -- Trans World only provides international service in one operating entity, the Atlantic. But it derives a significant portion of its system-wide traffic from those operations and it is a major participant in the market. Almost 40 percent of the carrier's total traffic is reported on its Atlantic operations. It is the second largest U.S. carrier with 29 percent of the total market (compared to Pan American's 38 percent). However, its share of the total Atlantic market has declined considerably since 1978 when the carrier had 44 percent of U.S. carrier transatlantic traffic. In 1986,, when terrorist activities adversely affected Trans World's significant southern Europe/eastern Mediterranean operations, its transatlantic traffic declined sharply. Traffic has rebounded in 1987,, 1988 and the first half of 1989.. However, as shown in Table III-30,, Trans World's traffic growth for the first half of 1989 compared to the same period of 1988 was 7.3 percent, well below the growth rates of American (34 percent), Delta (18 percent) and Northwest (15 percent).

United -- Like **Trans** World, United only operates in one international entity, the Pacific, but its traffic in that entity constitutes a sizable portion of the carrier's overall operations. In **1988**, United recorded over **12.5** million revenue passenger miles on its Pacific operations, making it the fourth largest international U.S. carrier, not far behind number three **Trans** World and considerably ahead of Continental, American and Delta.

One of the most notable aspects about the importance of United's international operations to the carrier, is that just four years ago international operations only accounted for 3 percent of United's system-wide operations. At that time, the carrier only had one international route, Seattle-Tokyo. After its purchase of Pan American's Pacific Division, international operations immediately took on a much more significant role for the carrier.

United is now the second largest U.S. carrier in the Pacific with **40** percent of the total traffic in the entity, only slightly behind Northwest (**43** percent). As with Northwest, the carrier has recorded large annual traffic gains over the past few years even though it already had a sizable traffic base. As noted in Table **III-30**, these traffic growths, both for United and Northwest, have continued through ~~the, first~~ half of **1989**.

Major Carriers' Financial Results from International Operations

Having examined the traffic and market shares of the individual carriers, comparing them both to their domestic operations and to the operations of other carriers, we will now turn to a similar examination of the financial results. We will examine the percentage of operating revenues each carrier realizes from international operations on a system-wide and on an individual entity basis, a comparison of operating revenues between carriers and comparisons of carrier international yields for **1988** to domestic yields and yields of other carriers.

Examining the traffic and market share data alone does not provide a complete picture of the contribution of the carrier's international operations to the carrier's competitive overall strength or weakness. For example, while a carrier may be capturing a major portion of the traffic in a market, which would suggest that its international operations are contributing favorably to its overall position, it might be discounting its fares heavily to obtain that market share and even incurring losses on those operations. A detailed review of revenues and profits therefore help to put traffic and market data into perspective.

The following tables provide data in these areas: Table **III-23** shows the percentage of operating revenues attributable to international operations for each carrier for the years **1978**

through 1988; Table **III-32** presents the percentage of each carrier's 1988 international revenues attributable to each operating entity; Table **III-33** shows for each carrier the changes in revenues by operating entity between 1978 and 1988; Table **III-34** shows the percentage of each operating entity's revenues accounted for by each carrier from 1978 through 1988; Table **III-35** shows operating revenues and profits for each carrier for the three operating entities; Table **III-36** shows yields per revenue passenger mile in scheduled service for each carrier in the three operating entities for 1988; Table **III-37** provides 1988 yield and expense data per revenue ton mile for each carrier by operating entity; Table **III-38** presents each carrier's 1988 yields and expenses per ton mile for system, domestic, international and international operating entity.

A brief discussion of the relevance of the data shown in these tables is helpful. Operating revenue is the largest generator of cash flow, and the ability of airlines to increase cash flow is critical to their ability to meet capital requirements for fleet expansion and servicing debt. Table **III-32** shows the amount of operating revenues generated by international operations for each carrier and the percentage of each carrier's total operating revenues contributed by each operating entity. Table **III-34** shows the percentages for each operating entity over the past 11 years. A review of changes in revenues over time (Table **III-33**) provides an indication of carriers' ability to generate more cash from on-going operations and which areas of its operations are providing this growth. Thus, these tables provide information on the relative importance of each carrier's international operations to its financial capabilities.

Table **III-36** provides information on what price carriers are able to charge for their product in different operating entities. Obviously, the yield that the carrier is able to realize is a function of market conditions -- supply, demand and operational circumstances such as the length of haul. But the data does reveal which operating entities carriers appear to be in a stronger position to command higher prices. For example, yields in the Atlantic were substantially below yields in the other international operating regions. For the five major carriers -- American, Continental, Delta, Northwest and United -- domestic yields, which admittedly tend to be affected by the shorter average distances, tended to be 15-20 percent higher, except for United, whose Pacific yields were higher than its domestic yields. It also affords some understanding of the relative competitive position between carriers in each operating entity, as demonstrated in Pages 3-5 of Table **III-36**.

Tables **III-37** and **III-38** provide information on the profitability of each carrier's international operations by operating entity. This shows 'the relative strengths of each carrier in terms of ability to generate profits, where costs are out of line with

revenues and which carriers are likely to benefit from market growth. In conjunction with this, Table **III-39** shows the competitive advantage/disadvantage of carriers based on their average operating costs.

American -- In **1988**, American generated almost **\$1** billion in operating revenues from international operations, or almost **12** percent of its total. Moreover, its international revenues have grown by more than **20** percent in each of the last four years. By entity, the Atlantic is the largest international region for American and it is the third largest U.S. carrier in this region based on operating revenues. However, the carrier was the only U.S. carrier to register an operating loss on Atlantic operations in **1988**. It was also the only U.S. carrier to register an operating loss in the Pacific, although it has only been operating in that entity for two years and has limited service. Overall, the carrier's international operations are only marginally profitable: in **1988**, the carrier had a **\$6.7** million operating profit for its international operations. In this regard, its yields are below average in both the Atlantic and Latin America divisions, while its unit costs appear comparable to the other carriers in these regions.

Continental -- Continental's international operations have been a major financial benefit to the carrier. In **1988**, the carrier realized an operating profit of **\$170** million on international operations. Although the Pacific was the primary component of these profits (**\$110** million), each of the carrier's three international operating entities recorded an operating profit.

Its international operating revenues now account for almost **one-fifth** of the carrier's total operating revenues, and the carrier has registered extremely large increases in international revenues since **1982**. Although some of this increase was due to its acquisition of People Express, that acquisition does not account for all of the growth. For example, Continental's revenue in the Pacific has grown between **24** and **36** percent in each of the last three years. Its Atlantic revenues grew by more than **58** percent in **1988**, the largest increase for any of the established transatlantic carriers.

Continental has the lowest yields of any of the international U.S. carriers. Its Atlantic yield in **1988** (**\$.0638** per revenue passenger mile) was approximately two-thirds of the next lowest carrier's yield. However, its operating expenses (Table **III-39**) are also the lowest of any U.S. carrier, and it has been able to control its expenses, holding down its average costs in both of its primary international regions (Atlantic and Pacific). As a result, despite its low yields, the carrier has been consistently

profitable on its international operations: it has registered a net profit in each of its international divisions since 1984 and a cumulative net profit on international operations of \$207 million. During this same five-year period, the carrier has had system-wide net losses of \$436 million.

Delta -- In 1988,, Delta's international operations contributed less than 10 percent of its total operating revenues but more than 15 percent of its operating profit. Delta's international operations were bolstered by its acquisition of Western, with its Latin America division. But the carrier has also realized considerable growth in its other international service. International revenues have increased an average of over 35% for the past six years.

All three of the carrier's international entities recorded operating profits in 1988,, including its Pacific entity where it has limited authority and has only been operating for two years. Although its Atlantic entity contributed the largest percentage of international revenues (56 percent), it only contributes 27 percent of international operating profits. This reflects the substantially lower yields Delta is able to achieve on its transatlantic service. On the other hand, its Pacific yields are the highest of any U.S. carrier (\$.1439): the dominant Pacific carriers, Northwest and United, had yields of \$.1166 and \$.1212,, respectively. In terms of costs, Delta's unit costs appear to be somewhat below those of the primary carriers in the Atlantic and to fall between the costs of the dominant carriers in each of the other two international operating entities.

Northwest -- Northwest is one of the three major U.S. carriers that is heavily dependent on its international operations. Its international operations account for almost 40 percent of its total operating revenues, with the Pacific accounting for over 85 percent. Despite its significant international revenue base, Northwest has experienced double-digit growth in international operating revenues in every year covered by this study except 1985.. Its lowest growth in the last three years has been 19.3 percent. This growth has been largely attributed to its Pacific entity. In the Atlantic, while it has consistently increased its operating revenues throughout the study period, its growth has been 7 percent or less in four of the eleven years.

In 1988,, Northwest's international operations contributed \$177 million in operating profits, 90 percent of the carrier's system total. Both operating entities were profitable, with the Atlantic registering an operating profit of 8 percent of revenues and the Pacific 9.5 percent of revenues. Northwest had the second lowest yield in both the Atlantic and Pacific (with only Continental lower). Offsetting this, however, it also had lower than average costs, putting it at a good competitive position in relation to its major U.S. carrier competitors.

Pan American -- Pan American receives more than three-quarters of its total operating revenues from international operations. Moreover, this proportion of revenues has remained fairly stable throughout the **1980's** (Table **III-23**). Pan American has not been able to maintain growth in its operating revenues. In four years during the **1980's** it experienced revenue declines. In **1987** and **1988**, the carrier appeared to be overcoming this problem, registering revenue growth in excess of **10** percent in each year. However, in the aftermath of the aircraft bombing in **1988**, Pan American's **1989** operating revenues have once again declined.

Pan American's Atlantic entity accounts for **80** percent of its international revenues, with Latin America accounting for the remainder. The carrier has not been able to sustain revenue growth and profits in either of these operating entities. It has recorded a cumulative net profit of **\$76** million in the Atlantic and **\$30** million in Latin America over the past five years.

In **1988**, Pan American had the highest yield of any established U.S. major carrier in the Atlantic and an above average yield in Latin America. Its Atlantic yields declined over **14** percent during the first half of **1989**, however, putting them below **Trans** World, American and Delta. Its **1988** Latin America yields were about average for the industry. Most important in assessing Pan American's position is the fact that its average operating expenses are the highest of any U.S. carrier in the Atlantic, its primary operating region. In **1988**, its average costs were **18** percent higher than **Trans** World, the next largest U.S. transatlantic carrier.

USAir -- Piedmont, which has now been merged into **USAir**, began both transatlantic and Latin America operations in **1987**. Piedmont only generated **\$62** million in international operating revenues or **2.5** percent of its total operating revenues. In **1988**, it recorded an operating profit from international operations of **\$11.5** million.

Given the short history of its international operations and their limited scope at this time, it is not possible to examine any trends in the carrier's international financial results or to compare it with other carriers. Furthermore, since the merger of Piedmont and **USAir** the relative size of international operations to the overall operations of the two combined carriers is even less.

Trans World -- Like Northwest and Pan American, **Trans** World relies heavily on international operations. Over a third of its operating revenues are generated in its international service, which is solely in the Atlantic entity. In **1988**, it generated over **\$1.5** billion in international revenues and an operating profit of **\$147** million (approximately **10** percent of revenues). The carrier has consistently recorded an operating profit on its

Atlantic service throughout the period covered by this study, although its profitability has varied widely, from **\$860,000** to **\$191** million. Except for **1986**, which was adversely affected by terrorism, the carrier's recent years have seen strong international operating profits. On the other hand, in six of the last eleven years it has experienced a system operating loss, reflecting the carrier's weaker position in the domestic market.

Trans World's yield for **1988** was at the average for all U.S. carriers providing transatlantic service, and lower than Pan American, the primary carrier in the Atlantic. As with the other carriers providing transatlantic service, **Trans** World experienced a decline in its Atlantic yields in the first half of **1989**. However, its decline of **2.3** percent was less than for Pan American (**14.2** percent), Northwest (**7.3** percent) or American (**3.6** percent). Furthermore, during this same period its traffic increased more than 7 percent, thus offsetting the yield decline. In terms of share of total revenues for the Atlantic, in the early **1980's** **Trans** World accounted for more than **40** percent of the market. Since **1986**, it has accounted for approximately **30** percent, although that figure appears to have stabilized.

In terms of expenses, in **1988** **Trans** World had the next to the highest unit costs for the Atlantic, behind Pan American. However, the carrier appears to have maintained fairly stable unit costs over the past few years.

United -- As noted earlier, United has only been providing international service since **1983** and only operates in one entity, the Pacific. Operating revenues from international service account for **20** percent of the carrier's total operating revenues. Moreover, its revenues gains in its Pacific division have been impressive over the past two years since it purchased Pan American's Pacific Division. In **1987**, its Pacific revenues rose **42** percent and in **1988** they rose **31** percent. As with traffic, it is the second largest U.S. carrier in the Pacific with **41** percent of the entity's revenues, only slightly behind Northwest with **44** percent. In terms of profits, it actually beat Northwest with **\$207** million in operating profits compared to **\$153** million. For the first half of **1989**, its traffic had grown **22** percent over the comparable period in **1988** and its yield was up **1.2** percent, indicating that its revenues for **1989**, if they continue, will once again be up sharply.

United's Pacific yield in **1988** was 5 percent higher than Northwest, its primary competitor. However, in the first half of **1989**, this gap narrowed, with Northwest's yield rising over 5 percent.

IV. Effect of International Operations on Service Competition

We have examined this subject in two parts. The first part focuses on the level of international operations at large hubs and the impact of those operations on the competitive positions of the major carriers at those airports. The second part reviews changes in the structure of service and traffic flows in the U.S.-London and U.S.-Tokyo markets over the decade. An analysis of developments in these important international markets provides an insight into potential future changes in international operations and how such changes may affect the competitive relationships of the major U.S. carriers.

International Service At Major Airports

We have limited this analysis to the large hubs as defined by the Federal Aviation Administration, i.e. communities whose ~~enplanements~~ account for at least 1% of all ~~enplanements~~ by U.S. certificated carriers in scheduled service. Virtually all international traffic enters or leaves the country via a large hub as defined by the Federal Aviation Administration. ^{1/} The purpose of this examination is to determine the degree to which international operations are important to the overall level of operations at major airports and to individual carriers operating at those airports and to see how these circumstances have changed over the past decade.

Table IV-1 shows for 1978, 1984 and 1988 the percentage of total U.S. air carrier ~~enplanements~~ at each large hub that were international passengers. The immediate observation from this table is that international traffic continues to account for a very small level of U.S. carrier operations at U.S. airports. In 1988, only three large hub airports -- New York (Kennedy), Miami and Honolulu -- registered more than 10 percent of their U.S. carrier ~~enplanements~~ from international operations. However, it must be emphasized that these figures understate the size and relative importance of international operations at major airports. First, the table does not show the operations of foreign airlines to and from these airports, which, as we indicated in the previous section, is substantial in many instances. Second, many domestic ~~enplanements~~ would not exist but for the fact that they are part of international trips. This is particularly true, for example, where passengers travel from foreign points to interior U.S. points via connections at a U.S. gateway. Third, with the proliferation of ~~hubbing~~ complexes at major airports during the 1980's, the number of domestic ~~enplanements~~ grew at a faster rate than actual traffic grew.

It is also significant that most airports have experienced considerable growth in the number of international ~~enplanements~~

^{1/} The only international traffic that does not utilize a large hub is **transborder** traffic.

over the past decade. Eight of the **23** airports that were large hubs in both **1978** and **1988** registered increases in international **enplanements** of more than **100** percent from **1978** to **1988**. Only two large hubs -- Philadelphia and Tampa -- registered a decline in international traffic. (See Table **IV-2**.)

Interestingly, none of the top **10** airports based on international **enplanements** is a highly concentrated hub (one carrier having more than **75** percent of total **enplanements**). Thus, the major international gateways tend to be more competitive airports.

From a carrier competition standpoint, the data in Table **IV-3** is more revealing. This table shows the international **enplanements** by carrier for **1978**, **1984** and **1988** for each of the **22** large hub airports with international **enplanements** in **1988**. At six of these **22** hubs, there was only one carrier with international operations. At four of these six airports, the international carrier is also the dominant domestic carrier with a **hubbing** complex: Piedmont at Charlotte, Continental at Houston, Northwest at Minneapolis, and **Trans** World at St. Louis. At a fifth, Denver, the international carrier (Continental) also has a **hubbing** complex, but it is not the dominant domestic carrier. At a seventh hub, Newark, all international operations in **1988** were provided by two related carriers (Continental and Eastern), one of which has a major complex at the airport. Thus, at these seven communities the international operations complement and reinforce the strength of a major domestic carrier at the airport.

At most of the remaining airports, international traffic tends to be a major portion of the operations of a non-dominant domestic carrier. For example, international traffic accounts for **25** percent of Northwest's traffic at Boston, but Northwest has less than **10** percent of the airport's total traffic. In these circumstances, international operations have helped to support the competitive position of these carriers' domestic operations at airports where they are not the primary carrier. Examples of this are the following: **Trans** World at Baltimore, Northwest and **Trans** World at Boston, Northwest and **Trans** World at Chicago, Northwest and Pan American at Los Angeles, Pan American at Miami, and American and United at Kennedy (New York).

Carriers' operations in domestic markets to and from their international gateways are strengthened to the extent that they flow international traffic from interior points over these gateways. For example, Northwest provides connecting service in the Chicago-London market via Boston. Its international traffic helps to support its service in the Chicago-Boston market, in which United, American and Midway are the primary carriers. Similarly, **Trans** World provides connecting service between Tampa and London via New York, with the international traffic helping to support its competitive service in the Tampa-New York market which is dominated by Delta and Continental.

Service in the U.S.-London and U.S.-Tokyo Markets

During the **1980's**, the United States pursued an international aviation policy of expanding service opportunities and negotiated new service rights in a number of international markets. That policy helped to create new market opportunities for airlines and contributed to the substantial growth in the level of entry in and service by U.S. carriers in international markets. As a result of the new services that have been inaugurated, traffic patterns in international markets have changed. These changes have had an impact on competition both in the international air transportation market and in the U.S. air transportation industry.

Rather than attempting to examine such changes in the aggregate, we have decided to look at a couple of the primary **U.S.-** international markets to obtain a more **indepth** understanding of the impact of international route expansion on the structure of the market and the U.S. air transportation industry. We have chosen to look at the U.S.-London and U.S.-Tokyo markets because of their major importance and because of the significant changes that have occurred in them over the past few years.

The U.S.-London market is the major **trans-Atlantic** market. In **1978**, U.S. carriers provided service to London from **10** U.S. gateways: Atlanta, Boston, Chicago, Los Angeles, Miami, New York, Philadelphia, San Francisco; Seattle and Washington. By **1988**, London was served by U.S. carriers from **21** U.S. gateways.

Four different types of U.S.-London city pair markets were examined. They are (1) city pairs that were nonstop gateways in both **1978** and **1988**; (2) city pairs that were nonstop gateways in **1988** and served single-plane in **1978**; (3) city pairs that were nonstop gateways in **1988** but not served either nonstop or **single-plane** in **1978**; and (4) the **20** largest passenger city pairs in **1988** that were not nonstop U.S.-gateways.

Before examining the data for these different types of markets, it should be noted that the absence of data in the survey for passengers traveling completely on foreign carriers affects the various types of markets differently. The data for city pair markets that were served **intraline** by a foreign carrier (either nonstop or single-plane) is incomplete, since there is no U.S. carrier participating in this transportation to report the traffic. However, for any city pair in which the U.S. point is not served by a foreign carrier, any traffic carried part way by a foreign carrier and connecting to a U.S. carrier for the domestic portion of the itinerary will be included in the survey. Consequently, for example, the data for the **20** largest **non-gateway-London** city pairs is reasonably complete. (As with all O&D survey markets, any connecting traffic that uses two separate tickets for each leg of the connecting itinerary is not accurately reflected in the survey, but this problem is presumed to be relatively minor.)

In **1978**, the ten gateways that received nonstop U.S. carrier service in both **1978** and **1988** recorded **1,014,750** passengers, or **73** percent of the total number of passengers between the U.S. and London that were transported in part or whole by U.S. carriers. As a group, these city pairs experienced an increase in traffic carried by U.S. carriers of **52.6%** over the eleven year period. While eight of the cities registered traffic growth, two experienced declines, Dallas where traffic fell by one-third and Seattle where it declined **10** percent. By **1988**, these city pairs accounted for **1,548,830** passengers to/from London or **57%** of the total number of **U.S.**-London passenger that were transported in part of whole by U.S. carriers.

New York continues to be the dominant market, although its share of the traffic has declined from **29** to **17** percent. Los Angeles continues to be the second largest city-pair, at slightly more than half the size of the New York market. Miami, which experienced a remarkable growth rate over the eleven-year period, is now the third largest city pair.

Three communities received single-plane service to London in **1978** and nonstop service in **1988**. They are Detroit, Houston and Philadelphia. These three communities experienced traffic growth ranging from **135%** for Houston to a mere **14%** for Philadelphia.

Seven communities became gateways over the eleven-year period. These communities all experienced considerable traffic growth, ranging from **250%** to over **1000%**. The average growth for these seven communities was **448%**.

The twenty largest city-pairs that were not gateways in **1988** experienced an average increase in traffic of over **300** percent for the eleven-year period. It should be noted that **14** of these communities received single-plane service or service requiring a change of planes but advertised under a single flight number (known as change-of-gauge service) from U.S. carriers in **1988**.

The structure of the traffic flows has changed considerably over this eleven-year period. There has been a widespread decline in the number of inter-line connections that passengers are making. This reflects the greater availability of on-line service, as more carriers with domestic feed systems now provide transatlantic service. Table **IV-4** provides an interline connecting index for each **U.S.**-London city pair examined for **1978** and **1988**. (An index of **1.00** means that all passengers in the market traveled **intraline**. An index of **2.00** would mean that a passenger in the market averaged one interline connection.) As would be expected, the change is pronounced for the **20** non-gateways city pairs. In **1978**, over two-thirds of these passengers were making an inter-line connection. By **1988**, at least four-fifths of these passengers were traveling on just one carrier.

The amount of foreign carrier participation in these markets has also been changed by the increase in number of gateways. Almost across the board, foreign carrier participation in these markets through connections is down. The most significant change is in the new gateways which are not being served directly by a foreign carrier. For example, in **1978**, foreign carriers accounted for approximately one-third of the revenue-passenger-miles in the Baltimore-London, Charlotte-London and Cincinnati-London markets. By **1988**, the foreign carrier participation in interline connections with U.S. carriers accounted for under 4 percent in each. Foreign carrier participation in the **20** non-gateway markets has been cut in half, from an average of **22%** to **10%**.

Finally, we have examined the U.S. carrier participation in each of these city-pair markets to see how that has changed over the past ten years with the opening up of new gateways and additional transatlantic U.S. carriers.

In every one of the city pairs that were nonstop gateways in both **1978** and **1988**, the dominant U.S. carrier's share of the market declined over the period. These carriers are now facing service competition by other carrier's connecting opportunities over different gateways (Chicago-London and San Francisco-London markets for example) and by additional U.S. carriers serving the same gateway (Boston-London and New York (Newark)-London).

For the ten markets that were served as nonstop gateways in **1988** but not in **1978**, there has been a concentration of market position: in eight of these city-pairs the dominant carrier's share of traffic was higher in **1988** (in several cases the dominant carrier was different in **1988** than in **1978**).. As would be expected with the award of new nonstop gateway authority from these U.S. cities, the two major U.S. transatlantic carriers in **1978**, experienced market share declines in this category of markets.

There has been an expansion of the participation of carriers in the market share of the non-gateway markets. For the twenty largest non-gateway markets in **1988**, all major U.S. carriers except one saw an increase in the number in which they accounted for **10%** or more of revenue-passenger-miles. These developments suggest that, with the increase in transatlantic U.S. carriers and additional U.S. gateways, there has been an increase in competition for traffic between carriers, particularly from U.S. cities that are not dominated by a single carrier.

The U.S.-Tokyo market presents somewhat different circumstances that reflect a different state of development from the **U.S.-London** market. In this connection, it is significant that competition in the **U.S.-Japan** market has been delayed by bilateral

considerations, which have substantially limited the number of new gateways and service that may be provided at those gateways, and by operational considerations, including the limited number of long-range aircraft capable of serving the market on a nonstop basis. As a result of this situation, the expansion of **U.S.-Japan** service by new entrants began late during the eleven-year period under review, and these carriers have therefore not had much time to fully develop beyond market flow over their new gateways. The development of the U.S.-Japan market during this period was also influenced by the fact that one of the major U.S. carrier participants in the market, Pan American, sold its Pacific System to another carrier, United.

Growth over the eleven-year period in the U.S.-Tokyo market in terms of passengers traveling in part or whole on a U.S. carrier amounted to **150%**. Interestingly, traffic growth in gateway and nongateway city pairs was not substantially different. For communities that were gateways in both **1978** and **1988**, the growth rate was **141%** and in communities that were not gateways in either period, the growth rate was **157%**. On the other hand, the three communities that were gateways in **1988** but not in **1978** -- Dallas, Detroit, and Portland -- experienced an average growth rate of **586%**, but they only accounted for **5%** of the overall market.

Honolulu continues to be the largest city-pair, with over **33%** of the total U.S.-Tokyo traffic that utilizes U.S. carriers. Los Angeles, San Francisco and New York are second, third and fourth, respectively. Together, these four city pairs account for over **70%** of the U.S.-Tokyo market.

The six gateways that received nonstop service from U.S. carriers in both **1978** and **1988** -- Chicago, Honolulu, Los Angeles, New York, San Francisco and Seattle -- all received nonstop service from a Japanese carrier in **1988**. In addition, a Japanese carrier provided nonstop service in the Washington market and single-plane service in the Atlanta market in **1988**. The data for these eight markets with Japanese carrier service do not reflect the traffic carried exclusively by the foreign carriers and are therefore actually understated. As a result, these large gateway markets actually represent a greater portion of the total U.S.-Tokyo market.

As with the U.S.-London markets, the U.S.-Tokyo markets were served with substantially fewer interline connections in **1988** than in **1978**. Table **IV-5** shows the interline connection factor for each of the gateway and top **25** non-gateway U.S.-Tokyo city pairs for **1978** and **1988**.

Even for city pairs that were gateways in **1978**, the interline connection factor was fairly high, with an average of over **1.31** carriers per passenger. If the large Honolulu-Tokyo market, which was generally served single-carrier (index of **1.03**), is excluded, the average number of carriers per passenger for remaining gateways was **1.54**. This declined to **1.23** by **1988**.

For the three new nonstop gateways -- Dallas, Detroit and Portland -- the connection index declined from an average of **2.10** to **1.17**.

For the **25** largest nongateway city pairs, in **1978** every city pair had a connection index greater than **2.00**, which means that the average passenger in these markets made an interline connection. The weighted average for all of these markets was **2.31**. By **1988**, the interline connection in every one of these markets was below **2.00** and the weighted average index was **1.51**.

The degree of decline in foreign carrier participation in interline connecting traffic in the U.S.-Tokyo markets is substantially less than in the U.S.-London market.

The noticeably smaller decline in foreign carrier participation is probably at least in part a function of the fact that, until the last couple of years, U.S.-Tokyo service was provided almost entirely by two carriers -- Northwest and Pan American -- and those two carriers do not have the larger domestic systems and feed networks. With the replacement of Pan American by United and the more recent introduction of American and Delta to Tokyo, we would expect to see further increases in on-line travel between the U.S. and Tokyo and a decline in interline connections between U.S. carriers and foreign flag carriers. This expectation is supported by the fact that the three new U.S. gateways which now have nonstop service -- Dallas, Detroit and Portland -- experienced some of the largest declines in foreign carrier participation.

For the gateway markets, the data show that, although there has been a shift in terms of which carriers are competing, the overall number of carriers that are competing in individual markets has not increased. Similarly, the overall level of competition in the individual markets has not really experienced any increase. To demonstrate this point, in **1978**, U.S. carriers accounted for **10%** or more of the revenue-passenger-miles in the nine nonstop gateway-Tokyo markets a total of **16** times. In **1988**, this number was still **16**.

At the **25** non-gateway city pairs, the overall level of competition also did not increase. Major U.S. carriers accounted for **10%** or more of the revenue-passenger-miles a total of **54** times, or an average of 2 carriers per market in **1988** compared to **57** times in **1978**, also an average of 2 carriers per market.

Appendix A

Review of Developments in Air Service to Europe and Asia

Europe

For many years, the two major United States airlines offering scheduled service with Europe were Pan American and **Trans** World (TWA). With the acquisition of American Overseas Airlines by Pan Am in **1950**, the Civil Aeronautics Board (CAB) changed the route certificates of the two remaining airlines, Pan Am and TWA, to ensure continued U.S. flag competition over the North Atlantic. Pan Am received authority to operate to Paris and Rome in competition with TWA, and TWA was authorized to serve London and Frankfurt in competition with Pan Am. As a result, both airlines were authorized to operate to the four major European traffic points.

In June **1970**, National Airlines (later acquired by Pan Am) inaugurated relatively limited transatlantic service.

In the mid **1970's** transatlantic airlines were confronted with sharply rising fuel costs, weak traffic levels, overcapacity and resulting uneconomic operations. As a consequence, Pan Am and TWA entered into a temporary agreement in late **1974** to realign their international services. Although the agreement resulted in a significant reduction of direct competition between the two airlines in the U.S.-Europe market, the CAB approved the plan in view of the perceived financial threat to both carriers absent the agreement.

Thus, in calendar year **1977**, the level of transatlantic service performed by the two major U.S. airlines was considerably less than what had been performed in previous years. Among other service suspensions, Pan Am had discontinued its Paris and Rome operations and TWA had ceased Frankfurt service. The agreement terminated in March **1978**.

In **1978** the U.S. government developed an international aviation policy statement that outlined specific aviation negotiation guidelines which placed greater emphasis on the marketplace as the key determinant of routes, capacity and pricing. It also stressed the desirability of new and greater opportunities for innovative and competitive pricing to encourage new service options. During the late **1970's** and early **1980's**, the U.S. was active in negotiating bilateral agreements with foreign governments, particularly with several European countries, which increased competition in the international environment. An example of the implementation of this policy was the CAB's decision in the Transatlantic Route Proceeding which, among other things, authorized three additional airlines to serve Europe -- Braniff, Delta and Northwest. Also, during the period the previous restrictions on scheduled operations by supplemental airlines were

lifted and as a result several of these airlines, as well as other new entrants, entered the transatlantic market. As a result, in the **1980's** the composition of U.S. airlines operating in the Europe market varied considerably from year to year with several carriers entering and exiting the market.

Since many European airlines are government owned, the composition of European airlines serving the U.S. has been relatively stable over the past decade, although through the years there has been an increase in their number. Only two European countries, the United Kingdom and France, have more than one scheduled airline operating to the U.S. In **1977**, British Airways, British **Caledonian** and Laker operated to the U.S. In **1984**, British Airways, British **Caledonian** and Virgin Atlantic served the U.S. market. In **1988**, the same three airlines were in the market, but during the year British Airways acquired British **Caledonian**. Until last year, Air France was the sole French airline operating over the Atlantic, but in **1988**, **UTA**, a well-established French airline in the Asia/Pacific market, initiated transatlantic service.

Asia

The Asia/Pacific aviation market is by far the fastest growing U.S. international aviation region. During the **1977-1988** period, nonstop scheduled passenger traffic between the **50** states and Asia/Pacific grew **245** percent (average annual rate of **11.9** percent) while U.S.-Europe traffic increased **154** percent (average annual rate of **8.9** percent).

Many factors have contributed to the rapid expansion of the **U.S.-Asia/Pacific** market. The Asia/Pacific region is the most dynamic economically in the world. Japan is a world leader. Hong Kong, Taiwan, Korea and Singapore are fiercely competitive. Indonesia, Malaysia and Thailand are emerging as major trading powers. China has tremendous economic potential. Australia and New Zealand have experienced strong traffic growth in recent years. In addition, other **U.S.-Asia/Pacific** contacts have increased dramatically as the number of Asian immigrants to the U.S. has grown.

While the **U.S.-Asia/Pacific** market has seldom had the volume of U.S. airlines serving it that operated in the U.S.-Europe market, it does have a longer history of scheduled passenger service. Similar to the European market, the participation of U.S. airlines in the **U.S.-Asia/Pacific** market has varied considerably throughout the years.

Pan American initiated commercial passenger service over the Pacific Ocean in **1936** flying between San Francisco and Manila. This operation was the world's first transoceanic passenger service. (Transatlantic passenger operations did not commence

until **1939.**) The first commercial flight to serve the U.S. mainland-Asia market was a Pan American flight in **1937** which operated to Hong Kong. Pan American also initiated U.S.-South Pacific service with flights between San Francisco and Auckland in **1940.**

In **1946,** the CAB issued its decision in the Pacific Case establishing new routes to the Orient and the South Pacific. Pan American's existing Central Pacific route was extended to include many countries in the Asia/Pacific region. San Francisco and Los Angeles were designated as U.S. mainland gateways. Northwest was granted authority to operate a North Pacific route to Japan, China and the Philippines. Its ~~coterminals~~ included Anchorage, Seattle, Chicago, Minneapolis/St. Paul and New York. Northwest's inaugural transpacific flight, between Minneapolis/St. Paul and Tokyo, was in July **1947.**

The transpacific route network of both carriers was soon expanded. Northwest was authorized to serve Hawaii from Seattle and Portland ~~coterminals~~ in **1948.** That same year, Pan American was authorized to establish Seattle and Portland as ~~coterminals~~ on its Pacific routes with a temporary restriction limiting its service between the Pacific Northwest and Hawaii to flights originating or terminating at points west of Hawaii. The President concluded that the national security and public welfare required the establishment of the most direct service possible between the Pacific Northwest and points in the South Pacific, the Philippines, Japan and other points in the Orient.

Because of the aircraft range capabilities and long distances involved, the first regularly scheduled nonstop flight from the U.S. west coast to Asia was not conducted until **1963.** In that ~~year;~~ Northwest started Seattle-Tokyo nonstop service with Boeing **707** aircraft.

The President approved, with modification, the CAB's decision of the international phase of the Transpacific Route Investigation in **1968,** ~~one~~ of the largest route proceedings ever conducted by that agency. Continental, Northwest, Pan American and TWA were selected to conduct scheduled passenger transpacific services. While the Board recommended that American Airlines be awarded a central Pacific route to Japan, the President concluded that a third U.S. carrier serving Japan was not in the national interest at that time.

American Airlines was awarded an U.S.-South Pacific route in **1969** authorizing service to Australia, New Zealand and Fiji.

TWA commenced transpacific operations in **1969** and terminated them in **1975.** American Airlines started its South Pacific services in **1970** and suspended them in **1974.** Continental for several years

operated services in the Pacific primarily of a regional nature. In **1979**, Continental initiated nonstop service from Honolulu to major Asia/Pacific markets.

United commenced fairly limited transpacific services from Seattle/Portland in **1983**. In **1986**, United acquired Pan American's extensive transpacific network. In **1987** Delta entered the transpacific market and American reentered the market with services to Japan.

The number of foreign passenger airlines operating in the **U.S.-Asia/Pacific** market has increased from only nine in **1977** to **17** in **1988**. Air France commenced operating between French Polynesia and the U.S. in **1988** joining **UTA**, another French carrier in the market. All Nippon started services in the U.S.-Asia/Pacific market in **1986**, and with **JAL**, a long-time operator in the region. This makes Japan the only other Asia/Pacific country with more than one flag carrier in the market. Other foreign carriers that have initiated services since **1977** include **CAAC**, **Cathay Pacific** (U.S. services via Canada), **Garuda**, **MAS**, Singapore and Thai.

Table III-1

INTERNATIONAL REVENUE PASSENGER MILES FOR ALL U.S. CARRIERS
1978-1988

<u>Year</u>	<u>Revenue Passenger Miles</u> (000)	<u>Percent Change</u>
1978	49,184,948	
1979	57,017,887	15.9%
1980	63,354,387	11.1%
1981	58,628,551	<u>17</u>
1982	58,803,550	0.3%
1983	61,823,284	5.1%
1984	68,817,251	11.3%
1985	73,236,977	6.4%
1986	71,037,527	(3.0%)
1987	88,615,528	24.7%
1988	103,257,192	16.5%

17 Because of a change in reporting requirements for operations to Puerto Rico and the U.S. Virgin Islands in 1981,, a comparison of 1981 to 1980 data cannot be made.

Source: Air Carrier Traffic Statistics Monthly, U.S. Department of Transportation.

Table III-2

TOTAL REVENUES FOR INTERNATIONAL OPERATIONS
FOR ALL U.S. CARRIERS
1978-1988

<u>Year</u>	<u>Total Revenues</u> (000)	<u>Percent Change</u>
1978	\$4,702,663	
1979	\$5,574,590	18.5%
1980	\$6,543,033	17.4%
1981	\$6,390,180	1/
1982	\$6,434,704	0.7%
1983	\$7,163,275	11.3%
1984	\$7,974,706	11.3%
1985	\$8,302,279	4.1%
1986	\$8,625,772	3.9%
1987	\$10,924,837	26.7%
1988	\$13,331,945	22.0%

1/ Because of a change in reporting requirements for operations to Puerto Rico and the U.S. Virgin Islands in 1981, a comparison of 1981 to 1980 data cannot be made.

Source: Air Carrier Financial Statistics, U.S. Department of Transportation.

Table III-3

COMPARISON OF INTERNATIONAL REVENUES PASSENGER MILES TO
TOTAL REVENUES PASSENGER MILES FOR ALL U.S. CARRIERS
1978-1988

<u>Year</u>	<u>International Revenue</u> <u>Passenger Miles</u> <u>(000)</u>	<u>Total Revenue</u> <u>Passenger Miles</u> <u>(000)</u>	<u>International</u> <u>As % Of Total</u>
1978	49,184,948	236,997,329	20.7%
1979	57,017,887	269,719,032	21.1%
1980	63,354,387	267,621,986	23.7%
1981	58,628,551	260,063,078	22.5%
1982	58,803,550	272,434,744	21.6%
1983	61,823,284	295,143,775	20.9%
1984	68,817,251	319,503,800	21.5%
1985	73,236,977	351,073,477	20.9%
1986	71,037,527	378,922,631	18.7%
1987	88,615,528	417,830,055	21.2%
1988	103,257,192	437,492,537	23.6%

Source: Air Carrier Traffic Statistics Monthly, U.S. Department of Transportation.

Table III-4

COMPARISON OF INTERNATIONAL REVENUES TO REVENUES
FOR ALL OPERATIONS FOR ALL U.S. CARRIERS
1978-1988

<u>Year</u>	<u>International Revenues</u> (<u>000</u>)	<u>Revenues from All</u> <u>Operations</u> (<u>000</u>)	<u>Percent Inter-</u> <u>national</u>
1978	\$4,702,663	\$21,365,596	22.0%
1979	\$5,574,590	\$25,684,018	21.7%
1980	\$6,543,033	\$33,727,806	19.4%
1981	\$6,390,180	\$33,930,958	18.8%
1982	\$6,434,704	\$36,065,529	17.8%
1983	\$7,163,275	\$38,593,094	18.6%
1984	\$7,974,706	\$44,060,359	18.1%
1985	\$8,302,279	\$48,579,605	17.1%
1986	\$8,625,772	\$50,086,045	17.2%
1987	\$10,924,837	\$56,786,850	19.2%
1988	\$13,331,945	\$63,632,660	21.0%

Source: Air Carrier Financial Statistics, U.S. Department of Transportation.

Table III-5

MAJOR AND NON-MAJOR CARRIER SHARES OF INTERNATIONAL MARKET
MEASURED BY REVENUE PASSENGER MILES
1978-1988

<u>Year</u>	<u>International Revenue Passenger Miles</u>			<u>Majors as % of Total</u>
	<u>All Carriers</u> (000)	<u>Majors</u> (000)	<u>Non-Majors</u> (000)	
1978	49,184,948	48,093,706	1,091,242	97.8%
1979	57,017,887	55,714,335	1,303,552	97.7%
1980	63,354,387	54,318,160	9,036,227	85.7%
1981	58,628,551	47,876,123	10,752,428	81.7%
1982	58,803,550	47,150,619	11,652,931	80.2%
1983	61,823,284	52,472,609	9,350,675	84.9%
1984	68,817,251	58,410,420	10,406,831	84.9%
1985	73,236,977	64,042,855	9,194,122	87.4%
1986	71,037,527	63,374,418	7,663,109	89.2%
1987	88,615,528	80,216,403	8,399,125	90.5%
1988	103,257,192	94,604,019	8,653,173	91.6%

Source: Air Carrier Traffic Statistics, U.S. Department of
Transportation.

Table III-6

MAJOR AND NON-MAJOR CARRIER SHARES OF INTERNATIONAL MARKET
MEASURED BY TOTAL REVENUES
1978-1988

<u>Year</u>	<u>International Revenues</u>			<u>Majors as % of Total</u>
	<u>All Carriers</u> (000)	<u>Majors</u> (000)	<u>Non-Majors</u> (000)	
1978	\$4,702,663	\$4,331,776	\$370,887	92.1%
1979	\$5,574,590	\$5,191,458	\$383,132	93.1%
1980	\$6,543,033	\$5,976,221	\$566,812	91.3%
1981	\$6,390,140	\$5,743,522	\$646,618	89.9%
1982	\$6,434,704	\$5,704,714	\$729,990	88.7%
1983	\$7,163,275	\$6,252,500	\$910,775	87.3%
1984	\$7,974,706	\$7,488,986	\$485,720	93.9%
1985	\$8,302,279	\$7,817,143	\$485,136	94.2%
1986	\$8,625,772	\$8,176,873	\$448,899	94.8%
1987	\$10,924,837	\$10,364,571	\$560,266	94.9%
1988	\$13,331,945	\$12,698,457	\$633,488	95.2%

Source: Air Carrier Financial Statistics, U.S. Department of Transportation.

Table III-7

COMPARISON OF INTERNATIONAL REVENUE PASSENGER MILES TO
SYSTEM REVENUE PASSENGER MILES FOR MAJOR CARRIERS
1978-1988

<u>Year</u>	<u>System RPM's</u> (000)	<u>International RPM's</u> (000)	<u>Percent</u>
1978	216,315,313	48,093,706	22.2%
1979	239,213,862	55,714,335	23.3%
1980	237,302,955	54,318,160	22.9%
1981	221,436,273	47,876,123	21.6%
1982	227,379,189	47,150,619	20.7%
1983	244,360,195	52,472,609	21.4%
1984	261,068,386	58,410,420	22.4%
1985	287,893,120	64,042,855	22.2%
1986	316,098,604	63,374,418	20.0%
1987	370,624,465	80,216,403	21.6%
1988	392,276,433	94,604,019	24.1%

Source: Air Carrier Traffic Statistics Monthly, U.S. Department of Transportation.

Table III-8

GROWTH IN TOTAL INTERNATIONAL REVENUE PASSENGER MILES
OF MAJOR CARRIERS, 1978-1988

<u>Year</u>	<u>International RPM's</u> <u>(1980)</u>	<u>Percent Change from</u> <u>Preceding Year</u>
1978	48,093,706	
1979	55,714,335	15.8%
1980	54,318,160	(2.5%)
1981	47,876,123	<u>17</u>
1982	47,150,619	(1.5%)
1983	52,472,609	11.3%
1984	58,410,420	11.3%
1985	64,042,855	9.6%
1986	63,374,418	(1.0%)
1987	80,216,403	26.6%
1988	94,604,019	17.9%

17 Because of a switch in reporting of Caribbean traffic from the Latin American (international) to the Domestic entity in 1981, a comparison of traffic between 1981 and 1980 is not valid.

Source: Air Carrier Traffic Statistics Monthly, U.S. Department of Transportation.

Table **III-9**

COMPARISON OF REVENUE PASSENGER MILES
BY OPERATING ENTITY
FOR FIRST SIX MONTHS OF 1988 AND 1989

<u>Operating Entity</u>	<u>1-6/1988 RPM's</u> <u>(000)</u>	<u>1-6/1989 RPM's</u> <u>(000)</u>	<u>% Change</u>
Atlantic	20,582,707	21,610,089	5.0%
Latin America	7,107,025	7,262,801	2.2%
Pacific	14,293,412	17,607,436	23.2%
Total Int'l.	41,983,144	46,480,326	10.7%

Source: Schedule T-1, Form 41.. U.S. Department of
Transportation. [B

Table III-10

AVAILABLE TON MILES FOR SYSTEM AND INTERNATIONAL
OPERATIONS OF MAJOR CARRIERS
1978-1988

<u>Year</u>	<u>System ATM's</u> (000)	<u>International ATM's</u> (000)	<u>Percent</u>
1978	49,558,649	11,485,774	23.2%
1979	53,226,250	13,337,943	25.1%
1980	56,244,786	13,329,062	23.7%
1981	53,020,723	11,842,870	22.3%
1982	52,905,360	12,050,824	22.8%
1983	54,388,478	12,169,234	22.4%
1984	63,163,404	15,649,401	24.8%
1985	66,496,438	17,486,804	26.3%
1986	74,566,744	18,381,404	24.7%
1987	85,269,925	20,976,519	24.6%
1988	91,215,655	24,277,622	26.6%

Source: Air Carrier Traffic Statistics Monthly, U.S. Department of Transportation.

Table III-11

NUMBER OF SCHEDULED REVENUE DEPARTURE PERFORMED
BY MAJOR AIR CARRIERS
1978-1988

<u>Year</u>	<u>Number of Departures</u>	<u>% Change from Previous Year</u>
1978	209,512	
1979	224,169	7.0%
1980	208,156	((7.1%))
1981	172,791	n/a
1982	168,369	((2.6%))
1983	174,409	3.6%
1984	190,644	9.3%
1985	203,219	6.6%
1986	218,878	7.7%
1987	256,809	17.3%
1988	295,288	15.0%

Source: Air Carrier Traffic Statistics Monthly, U.S. Department of Transportation.

Table III-12

SYSTEM, DOMESTIC AND INTERNATIONAL REVENUES
OF MAJOR CARRIERS, 1978-1988

Year	Total System Revenues (000)	Total Domestic Revenues (000)	%	Total Int'l. Revenues (000)	%
1978	\$19,641,166	\$15,309,390	77.9%	\$4,331,776	22.1%
1979	\$22,678,160	\$17,486,702	77.1%	\$5,191,458	22.9%
1980	\$28,928,294	\$22,952,073	79.3%	\$5,976,221	20.7%
1981	\$30,457,115	\$24,713,593	81.1%	\$5,743,522	18.9%
1982	\$29,976,760	\$24,272,046	81.0%	\$5,704,714	19.0%
1983	\$31,956,453	\$25,703,953	80.4%	\$6,252,500	19.6%
1984	\$37,382,175	\$29,893,189	80.0%	\$7,488,986	20.0%
1985	\$38,978,678	\$31,161,535	79.9%	\$7,817,143	20.1%
1986	\$42,834,813	\$34,657,940	80.9%	\$8,176,873	19.1%
1987	\$50,973,384	\$40,608,813	79.7%	\$10,364,571	20.3%
1988	\$57,489,931	\$44,790,574	77.9%	\$12,698,457	22.1%

Source: Air Carrier Financial Statistics, U.S. Department of Transportation.

Table III-13

OPERATING PROFITS FROM INTERNATIONAL OPERATIONS
COMPARED TO SYSTEM OPERATING PROFITS
FOR MAJOR CARRIERS
1978-1988

<u>Year</u>	<u>Major Carriers</u>		<u>International As % of System</u>
	<u>System Operating Profit</u> (<u>000</u>)	<u>International Profit</u> (<u>000</u>)	
1978	\$1,160,054	\$324,124	27.9%
1979	\$ 21,219	\$ 86,431	307.3%
1980	(\$ 333,599)	(\$195,145)	
1981	(\$ 596,570)	(\$154,245)	
1982	(\$ 716,610)	\$ 30,486	
1983	\$ 153,710	\$423,230	175.3%
1984	\$2,042,446	\$482,089	23.6%
1985	\$1,129,614	\$283,994	25.1%
1986	\$1,361,465	\$169,224	12.4%
1987	\$2,362,294	\$659,256	27.9%
1988	\$3,207,402	\$924,814	28.8%

Source: Air Carrier Financial Statistics, U.S. Department of Transportation.

TOTAL MAJOR CARRIER REVENUE PASSENGER MILES BY OPERATING ENTITY, 1978-1988

45

<u>Year</u>	<u>Total Int'l.</u> <u>RPMS</u> <u>((000))</u>	<u>Atlantic</u> <u>RPMS</u> <u>((000))</u>	<u>Percent</u>	<u>Latin America</u> <u>RPMS</u> <u>((000))</u>	<u>Percent</u>	<u>Pacific</u> <u>RPMS</u> <u>((000))</u>	<u>Percent</u>
1978	48,093,706	23,302,340	48.5%	15,226,586	31.7%	9,564,780	19.9%
1979	55,714,335	25,587,441	45.9%	17,352,632	31.1%	12,774,262	22.9%
1980	54,318,160	24,812,606	45.7%	16,393,561	30.2%	13,111,993	24.1%
1981	47,876,123	23,843,339	49.8%	11,068,440	23.1%	12,964,344	27.1%
1982	47,150,619	24,136,099	51.2%	9,299,610	19.7%	13,714,910	29.1%
1983	52,472,609	26,654,840	50.8%	10,021,148	19.1%	15,796,571	30.1%
1984	58,410,420	29,971,523	51.3%	9,684,316	16.6%	18,006,681	30.8%
1985	64,042,855	34,346,445	53.6%	9,711,015	15.2%	19,236,614	30.0%
1986	63,374,418	29,790,868	47.0%	11,627,741	18.3%	20,926,050	33.0%
1987	80,216,403	40,302,443	50.2%	13,299,773	16.6%	25,483,098	31.8%
1988	94,604,019	47,523,896	50.2%	14,676,290	15.5%	31,257,511	33.0%

Note: Since data for Puerto Rico and the U.S. Virgin Islands was reported in the Latin America entity prior to 1981, the data for Latin America from 1978 through 1980 overstates the level of traffic in that entity and affects comparisons between years before and after 1981 and between entities before 1981.

Source: Air Carrier Traffic Statistics Monthly, U.S. Department of Transportation.

MAJOR CARRIER OPERATING REVENUES BY OPERATING ENTITY
1978-1988

Year	Total Operating	Operating Revenues by Entity					
	Revenues	Atlantic	Percent	Latin America	Percent	Pacific	Percent
	(000)	(000)		(000)		(000)	
1978	\$4,331,776	\$2,012,375	46.5%	\$1,388,516	32.1%	\$ 930,885	21.5%
1979	\$5,191,458	\$2,367,856	45.6%	\$1,633,376	31.5%	\$1,190,226	22.9%
1980	\$5,976,222	\$2,764,728	46.3%	\$1,900,040	31.8%	\$1,311,454	21.9%
1981	\$5,743,521	\$2,783,623	48.5%	\$1,503,822	26.2%	\$1,456,076	25.4%
1982	\$5,704,714	\$2,847,725	49.9%	\$1,339,849	23.5%	\$1,517,140	26.6%
1983	\$6,252,501	\$3,163,333	50.6%	\$1,254,099	20.1%	\$1,835,069	29.3%
1984	\$7,488,986	\$3,623,907	48.4%	\$1,283,834	17.1%	\$2,581,244	34.5%
1985	\$7,817,143	\$3,961,050	50.7%	\$1,323,676	16.9%	\$2,532,418	32.4%
1986	\$8,176,873	\$3,638,980	44.5%	\$1,501,034	18.4%	\$3,036,860	37.1%
1987	\$10,364,571	\$4,767,481	46.0%	\$1,695,660	16.4%	\$3,901,430	37.6%
1988	\$12,698,457	\$5,796,565	45.6%	\$1,894,433	14.9%	\$5,007,458	39.4%

Source: Air Carrier Financial Statistics, U.S. Department of Transportation.

MAJOR CARRIER OPERATING PROFITS BY OPERATING ENTITY
1978-1988

<u>Year</u>	<u>Total Operating Profit</u> (000)	<u>Operating Profit by Entity</u>					
		<u>Atlantic</u> (000)	<u>Percent</u>	<u>Latin America</u> (000)	<u>Percent</u>	<u>Pacific</u> (000)	<u>Percent</u>
1978	\$324,124	\$ 77,650	24.0%	\$119,912	37.0%	\$126,562	39.0%
1979	\$ 86,431	(\$ 16,155)	n/a	\$ 43,790	n/a	\$ 58,796	n/a
1980	(\$195,145)	(\$116,215)	n/a	(\$ 15,349)	n/a	(\$ 63,581)	n/a
1981	(\$154,245)	(\$ 79,616)	n/a	(\$ 25,484)	n/a	(\$ 49,145)	n/a
1982	\$ 30,485	\$ 72,724	n/a	(\$ 2,852)	n/a	(\$ 39,387)	n/a
1983	\$423,230	\$387,634	n/a	(\$ 69,251)	n/a	\$104,847	n/a
1984	\$399,767	\$297,525	n/a	(\$ 14,187)	n/a	\$116,429	n/a
1985	\$215,273	\$132,246	61.4%	\$ 17,923	8.3%	\$ 65,104	30.2%
1986	\$101,373	(\$ 83,727)	n/a	\$ 85,858	n/a	\$ 99,242	n/a
1987	\$558,257	\$253,527	45.4%	\$ 68,027	12.2%	\$236,703	42.4%
1988	\$857,539	\$264,643	30.9%	\$113,613	13.2%	\$479,283	55.9%

Source: Air Carrier Financial Statistics, U.S. Department of Transportation.

Table III-17

TOTAL TRAFFIC AND GROWTH OF MAJOR CARRIERS IN ATLANTIC ENTITY
MEASURED BY REVENUE PASSENGER MILES
1978-1988

<u>Year</u>	<u>RPMS</u>	<u>% Change From Previous Year</u>	<u>Carriers</u>
1978	23,302,340		BN,, DL,, NA,, PA, TW
1979	25,587,441	9.8%	BN,, DL,, NA,, NW, PA, TW
1980	24,812,606	((3.1%))	BN,, DL,, NW, PA, TW,, WA
1981	23,843,339	((5.2%))	BN,, DL,, NW, PA, TW,, WA
1982	24,136,099	2.7%	AA, BN,, DL,, NW, PA, TW
1983	26,654,840	10.4%	AA, DL,, NW, PA, TW
1984	29,971,523	12.4%	AA, DL,, NW, PA, TW
1985	34,346,445	14.3%	AA, CO, DL,, EA,, NW, PA, TW
1986	29,790,868	((14.0%))	AA, CO, DL,, EA,, NW, PA, TW
1987	40,302,443	37.8%	AA, CO, DL,, NW, PA, PI, TW
1988	47,523,896	17.9%	AA, CO, DL,, NW, PA, PI, TW

Source: Air Carrier Traffic Statistics Monthly, U.S. Department of Transportation.

Table III-18

TOTAL TRAFFIC AND GROWTH OF MAJOR CARRIERS IN LATIN AMERICA ENTITY
MEASURED BY REVENUE PASSENGER MILES
1978-1988

<u>Year</u>	<u>RPMS</u>	<u>% Chance From Pre- vious Year</u>	<u>Carriers</u>
1978	15,226,586	-	AA, BN, DL, EA, PA, WA
1979	17,352,632	14.0%	AA, BN, CO, DL, EA, NA, PA, WA
1980	16,393,561	((5.5%))	AA, BN, CO, DL, EA, PA, WA
1981	11,068,440	n/a 1/	AA, BN, CO, DL, EA, PA, WA
1982	9,299,610	((16.0%))	AA, BN, CO, DL, EA, PA, WA
1983	10,021,148	7.8%	AA, CO, DL, EA, PA, WA
1984	9,684,316	((3.4%))	AA, CO, DL, EA, PA, WA
1985	9,711,015	0.3%	AA, CO, DL, EA, PA, WA
1986	11,627,741	19.7%	AA, CO, DL, EA, PA, WA
1987	13,299,773	14.4%	AA, CO, DL, EA, PA, PI, WA
1988	14,676,290	10.3%	AA, CO, DL, EA, PA, PI

1/ Because of the change in the reporting of Puerto Rico and U.S. Virgin Island data from the Latin America to the domestic entity in 1981, a comparison of data between 1981 and 1980 is inappropriate.

Source: Air Carrier Traffic Statistics Monthly, U.S. Department of Transportation.

Table **III-19**

TOTAL TRAFFIC AND GROWTH FOR MAJOR CARRIERS IN PACIFIC ENTITY
MEASURED BY REVENUE PASSENGER MILES
1978-1988

<u>Year</u>	<u>RPMS</u>	<u>% Change From Previous Year</u>	<u>Carriers</u>
1978	9,564,780	-	CO, NW, PA
1979	12,774,262	33.6%	BN,, CO, NW, PA
1980	13,111,993	2.6%	BN,, CO, NW, PA
1981	12,964,344	((1.1%))	CO, NW, PA
1982	13,714,910	5.8%	CO, NW, PA
1983	15,796,571	15.2%	CO, NW, PA, UA
1984	18,006,681	14.0%	CO, NW, PA, UA
1985	19,236,614	6.8%	CO, NW, PA, UA
1986	20,926,050	8.8%	CO, NW, PA, UA
1987	25,483,098	21.8%	AA, CO, DL,, NW, UA
1988	31,257,511	22.7%	AA, CO, DL,, NW, UA

Source: Air Carrier Traffic Statistics Monthly,, U.S. Department of Transportation.

Table III-20

COMPARISON OF SCHEDULED AND NON-SCHEDULED TRAFFIC
FOR INTERNATIONAL OPERATIONS OF MAJOR CARRIERS
1978-1988

<u>Year</u>	<u>Total Int'l. RPMS of Majors</u>	<u>Scheduled</u>		<u>Non-Scheduled</u>	
		<u>RPMS</u>	<u>%</u>	<u>RPMS</u>	<u>%</u>
1978	48,093,706	44,104,146	91.7%	3,989,560	8.3%
1979	55,714,335	52,939,951	95.0%	2,774,384	5.0%
1980	54,318,160	52,981,851	97.5%	1,336,309	2.5%
1981	47,876,123	47,442,397	99.1%	433,726	0.9%
1982	47,150,619	45,689,855	96.9%	1,460,764	3.1%
1983	52,472,609	50,827,951	96.9%	1,644,658	3.1%
1984	58,410,420	57,088,397	97.7%	1,322,023	2.3%
1985	64,042,855	62,511,649	97.6%	1,531,206	2.4%
1986	63,374,418	61,484,149	97.0%	1,890,269	3.0%
1987	80,216,403	78,584,943	98.0%	1,631,460	2.0%
1988	94,604,019	92,381,377	97.7%	2,222,642	2.3%

Source: Air Carrier Traffic Statistics Monthly, U.S. Department of Transportation.

Table III-21

COMPARISON OF REVENUE PASSENGER MILES FOR
INTERNATIONAL OPERATIONS TO CARRIER SYSTEM OPERATIONS
1988

<u>Carrier</u>	<u>System RPM's</u>	<u>International RPM's</u>	<u>Percent</u>
American	64,770,369	8,830,906	13.6%
Continental	40,766,521	9,112,386	22.4%
Delta	51,686,218	5,760,338	11.1%
Eastern	28,871,217	3,399,410	11.8%
Northwest	40,850,201	16,532,751	40.5%
Pan American	29,715,279	23,071,721	77.6%
Piedmont	13,057,649	510,563	3.9%
Trans World	34,803,192	13,719,189	39.4%
United	69,101,362	12,520,433	18.1%
Total -			
Nine carriers	373,622,008	93,457,697	25.0%
All Major Carriers	392,276,433	94,604,019	24.1%

Source: Air Carrier Traffic Statistics Monthly, U.S. Department of Transportation.

Table III-22

COMPARISON OF OPERATING REVENUES FROM INTERNATIONAL
OPERATIONS WITH SYSTEM OPERATING REVENUES
1988

<u>Carrier</u>	<u>System Operating</u> <u>Revenues</u> (000)	<u>International</u> <u>Operating Revenues</u> (000)	<u>Percent</u> <u>of System</u>
American	\$8,550,586	\$1,002,989	11.7%
Continental	\$4,553,349	\$ 871,665	19.1%
Delta	\$7,393,275	\$ 708,847	9.6%
Eastern	\$3,888,121	\$ 465,315	12.0%
Northwest	\$5,587,783	\$2,193,235	39.3%
Pan American	\$3,592,617	\$2,788,391	77.6%
Piedmont	\$2,363,178	\$ 61,880	2.6%
Trans World	\$4,364,332	\$1,586,949	36.4%
United	\$8,796,352	\$1,790,218	20.4%
Total			
Nine Carriers	\$49,089,593	\$11,469,489	23.4%
All Majors	\$57,489,031	\$12,698,457	22.1%

Source: Air Carrier Financial Statistics, U.S. Department of Transportation.

PERCENTAGE OF MAJOR CARRIER REVENUES GENERATED BY INTERNATIONAL OPERATIONS, BY CARRIER, 1978-1988

<u>Carrier</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>
American	11.7%	12.0%	12.3%	6.7%	7.0%	7.3%	6.9%	7.6%	9.1%	10.6%	11.6%
Braniff	25.4%	26.1%	30.8%	27.6%	29.3%						
Continental	3.3%	7.0%	8.7%	11.7%	11.9%	15.6%	20.7%	17.0%	18.3%	15.3%	19.1%
Delta	3.1%	4.0%	4.4%	3.6%	4.1%	4.1%	4.3%	5.0%	5.6%	7.5%	9.6%
Eastern	14.9%	14.0%	13.6%	6.2%	8.6%	10.0%	9.0%	8.6%	9.5%	10.5%	12.0%
National	12.1%	15.7%									
Northwest	29.1%	31.4%	33.4%	36.3%	41.2%	43.1%	45.4%	46.2%	44.6%	34.4%	39.3%
Pan American	92.5%	92.0%	73.9%	75.6%	77.0%	77.1%	79.5%	82.9%	79.8%	80.0%	77.6%
Piedmont										1.1%	2.6%
Trans World	34.2%	32.0%	32.3%	33.9%	36.7%	41.7%	43.9%	45.1%	35.1%	34.2%	36.4%
United						1.3%	2.5%	2.8%	14.4%	17.3%	20.4%
Western	6.0%	7.2%	8.5%	12.4%	6.7%	5.3%	5.5%	4.9%	4.7%		

Source: Air Carrier Financial Statistics, U.S. Department of Transportation.

Table III-24

COMPARISON OF OPERATING PROFITS FROM INTERNATIONAL
OPERATIONS WITH SYSTEM OPERATING PROFITS
1988

<u>Carrier</u>	<u>System Operating</u> <u>Profit (Loss)</u> <u>((000))</u>	<u>International Oper-</u> <u>ating Profit (Loss)</u> <u>((000))</u>	<u>Ratio of</u> <u>Int'l.//</u> <u>System</u>
American	\$800,995	\$ 6,734	.008
Continental	\$ 83,642	\$170,327	2.036
Delta	\$524,637	\$ 83,669	.159
Eastern	(\$209,437)	(\$ 22,414)	.107
Northwest	\$195,638	\$177,075	.905
Pan American	(\$105,293)	\$ 76,013	n/a
Piedmont	\$277,361	\$ 11,524	.041
Trans World	\$259,419	\$146,713	.566
United	\$668,568	\$207,898	.310
Total -			
Nine Carriers	\$2,495,530	\$857,539	.344
All Majors	\$3,207,402	\$924,814	.288

Source: Air Carrier Financial Statistics, U.S. Department of Transportation.

CARRIER TRAFFIC FOR SYSTEM AND INTERNATIONAL OPERATING ENTITY
BY REVENUE PASSENGER MILES, CALENDAR YEAR 1988

Carrier	System RPMS	Total Int'l.		Atlantic		Latin Am.		Pacific	
		RPMS	%	RPMS	%	RPMS	%	RPMS	%
American	64,770,369	8,830,906	13.6	5,111,432	7.9	3,162,464	4.9	557,010	0.9
Continental	40,766,521	9,112,386	22.4	3,623,289	8.9	1,451,169	3.6	4,037,928	9.9
Delta	51,686,218	5,760,338	11.1	3,606,887	7.0	1,428,857	2.8	724,594	1.4
Eastern	28,871,217	3,399,410	11.8	-	-	3,399,410	11.8	-	-
Northwest	40,850,201	16,532,751	40.5	3,115,205	7.6	-	-	13,417,546	32.8
Pan American	29,715,279	23,071,721	77.6	17,926,653	60.3	5,145,068	17.3	-	-
Piedmont	13,057,649	510,563	3.9	421,241	3.2	89,322	0.7	-	-
Trans World	34,803,192	13,719,189	39.4	13,719,189	39.4	-	-	-	-
United	69,101,362	12,520,433	18.1	-	-	-	-	12,520,433	18.1

Source: Air Carrier Traffic Statistics Monthly, U.S. Department of Transportation.

INTERNATIONAL TRAFFIC FOR AMERICAN AIRLINES
BY OPERATING ENTITY
1978-1988

Year	Atlantic		Latin America		Pacific	
	RPMS (000)	% Change	RPMS (000)	% Change	RPMS (000)	% Change
1978			3,908,003			-
1979			4,425,378	13.2%	-	-
1980			3,969,689	((10.3%))	-	-
1981			2,200,837	1/		-
1982	343,443		2,103,487	((4.4%))	-	-
1983	647,649	88.5%	2,145,766	2.0%	-	-
1984	789,621	21.9%	2,235,829	4.2%	-	-
1985	1,749,494	121.6%	2,387,043	6.8%	-	-
1986	2,290,650	30.9%	2,636,754	15.1%	-	-
1987	4,035,123	76.2%	2,959,780	12.3%	271,267	-
1988	5,111,432	26.7%	3,162,464	6.8%	557,010	105.3%

1/ Because of a switch in reporting of Puerto Rico and U.S. Virgin Island traffic from the Latin America to the Domestic entity in 1981,, a comparison of traffic for that entity between 1981 and 1980 is not valid. Therefore, no percentage change is computed.

Source: Air Carrier Traffic Statistics Monthly, U.S. Department of Transportation.

INTERNATIONAL TRAFFIC FOR CONTINENTAL AIRLINES
BY OPERATING ENTITY
1978-1988

Year	Atlantic		Latin America		Pacific	
	RPMS (000)	% Change	RPMS (000)	% Change	RPMS (000)	% Change
1978					215,214	-
1979			8,923	-	641,751	198.2%
1980			38,870	335.6%	773,369	20.5%
1981			147,995	1/	833,291	7.7%
1982			139,448	((5.8%))	911,793	9.4%
1983			330,520	137.0%	1,049,661	15.1%
1984			383,963	16.2%	1,389,902	32.4%
1985	382,435	-	447,096	16.4%	1,897,384	36.5%
1986	629,948	64.7%	540,569	20.9%	2,333,265	23.0%
1987	2,392,962	279.9%	860,526	59.2%	3,205,248	37.4%
1988	3,623,289	51.4%	1,451,169	68.6%	4,037,928	26.0%

1/ Because of a switch in reporting of Puerto Rico and U.S. Virgin Island traffic from the Latin America to the Domestic entity in 1981, a comparison of traffic for that entity between 1981 and 1980 is not valid. Therefore, no percentage change is computed.

Source: Air Carrier Traffic Statistics Monthly, U.S. Department of Transportation.

INTERNATIONAL TRAFFIC FOR DELTA AIRLINES
BY OPERATING ENTITY
1978-1988

<u>Year</u>	<u>Atlantic</u>		<u>Latin America</u>		<u>Pacific</u>	
	<u>RPMS</u> <u>((000))</u>	<u>%</u> <u>Change</u>	<u>RPMS</u> <u>((000))</u>	<u>%</u> <u>Change</u>	<u>RPMS</u> <u>((000))</u>	<u>%</u> <u>Change</u>
1978	350,410	-	652,241	-	-	
1979	795,262	127.0%	768,466	17.8%	-	
1980	1,108,426	39.4%	696,115	((9.4%))	-	
1981	1,052,659	((5.0%))	359,385	<u>1/</u>	-	
1982	1,124,036	6.8%	390,807	8.7%	-	
1983	1,097,086	((2.4%))	410,907	5.1%	-	
1984	1,292,140	17.8%	484,185	17.8%	-	
1985	1,686,318	30.5%	516,366	6.6%	-	
1986	1,824,548	8.2%	565,250	9.5%	-	
1987	2,849,908	56.2%	1,057,627	87.1%	217,201	
1988	3,606,887	26.6%	1,428,857	35.1%	724,594	233.6%

1/ Because of a switch in the reporting of Puerto Rico and U.S. Virgin Island traffic from the Latin America to the Domestic entity in 1981, a comparison of traffic for that entity between 1981 and 1980 is not valid. Therefore, no percentage change is computed.

Source: Air Carrier Traffic Statistics Monthly, U.S. Department of Transportation.

INTERNATIONAL TRAFFIC FOR EASTERN AIR LINES
BY OPERATING ENTITY
1978-1988

<u>Year</u>	<u>Atlantic</u>		<u>Latin America'</u>	
	<u>RPMS</u>	<u>%</u>	<u>RPMS</u>	<u>%</u>
	<u>(000)</u>		<u>(000)</u>	
1978			4,458,587	
1979			4,872,747	9.3%
1980			6,637,177	36.2%
1981			1,880,221	1/
1982			2,257,620	20.1%
1983			3,006,198	33.2%
1984			2,803,370	((6.7%))
1985	95,929		2,742,369	((2.2%))
1986	321,181	224.8%	2,742,015	0.0%
1987			3,337,792	21.7%
1988			3,399,410	1.8%

1/ Because of a switch in reporting of Puerto Rico and U.S. virgin Island traffic from the Latin America to the Domestic entity in 1981,, a comparison of traffic for that entity between 1981 and 1980 is not valid. Therefore, no percentage change is computed.

Source: Air Carrier Traffic Statistics Monthly, U.S. Department of Transportation.

INTERNATIONAL TRAFFIC FOR NORTHWEST AIRLINES
BY OPERATING ENTITY
1978-1988

<u>Year</u>	<u>Atlantic</u>		<u>Pacific</u>	
	<u>RPMS</u> <u>(000)</u>	<u>%</u> <u>Change</u>	<u>RPMS</u> <u>(000)</u>	<u>%</u> <u>Change</u>
1978			2,194,737	
1979	493,621		4,085,531	86.2%
1980	1,086,218	120.1%	4,368,681	6.9%
1981	1,442,336	32.8%	4,718,840	127.2%
1982	1,478,452	2.5%	5,942,343	25.9%
1983	1,768,105	19.6%	6,838,203	15.0%
1984	1,858,234	5.1%	8,449,873	23.6%
1985	2,310,733	24.4%	9,532,257	12.7%
1986	2,431,134	5.2%	10,192,309	6.9%
1987	2,595,166	6.7%	11,528,974	13.1%
1988	3,115,205	20.0%	13,417,546	16.4%

Source: Air Carrier Traffic Statistics Monthly, U.S. Department of Transportation.

INTERNATIONAL TRAFFIC FOR PAN AMERICAN
BY OPERATING ENTITY
1978-1988

<u>Year</u>	<u>Atlantic</u>		<u>Latin America</u>		<u>Pacific</u>	
	<u>RPMS</u> <u>(000)</u>	<u>%</u> <u>Change</u>	<u>RPMS</u> <u>(000)</u>	<u>%</u> <u>Change</u>	<u>RPMS</u> <u>(000)</u>	<u>%</u> <u>Change</u>
1978	11,015,058	-	3,319,336	-	7,154,829	-
1979	10,915,726	((0.9%))	3,804,499	14.6%	7,816,433	9.2%
1980	11,081,234	1.5%	3,762,911	((1.1%))	7,442,358	((4.8%))
1981	10,722,466	((3.2%))	3,366,361	1/	7,412,213	((0.6%))
1982	11,124,508	3.7%	3,207,442	((4.7%))	6,860,774	((7.4%))
1983	11,872,172	6.7%	3,487,162	8.7%	7,355,893	7.2%
1984	12,484,080	5.2%	3,124,156	((10.4%))	6,788,310	((7.7%))
1985	12,654,811	1.4%	2,998,884	((4.0%))	6,526,385	((3.9%))
1986	12,520,865	((1.1%))	4,547,136	51.6%	708,202	((89.4%))
1987	16,184,963	30.1%	4,889,565	7.5%		
1988	17,926,653	10.8%	5,145,068	5.2%		

1/ Because of a switch in reporting of Puerto Rico and U.S. Virgin Island traffic from the Latin America to the Domestic entity in 1981,, a comparison of traffic for that entity between 1981 and 1980 is not valid. Therefore, no percentage change is computed.

Source: Air Carrier Traffic Statistics Monthly, U.S. Department of Transportation.

INTERNATIONAL TRAFFIC FOR PIEDMONT AVIATION
BY OPERATING ENTITY
1978-1988

<u>Year</u>	<u>Atlantic</u>		<u>Latin America</u>	
	<u>RPMS</u> <u>(000)</u>	<u>%</u> <u>Change</u>	<u>RPMS</u> <u>(000)</u>	<u>%</u> <u>Change</u>
1978	-	-	-	-
1979	-	-	-	-
1980	-	-	-	-
1981	-	-	-	-
1982	-	-	-	-
1983	-	-	-	-
1984	-	-	-	-
1985	-	-	-	-
1986	-	-	-	-
1987	187,890	-	11,527	-
1988	421,241	124.2%	89,322	674.9%

Source: Air Carrier Traffic Statistics Monthly, U.S. Department of Transportation.

INTERNATIONAL TRAFFIC FOR **TRANS** WORLD AIRLINES
BY OPERATING ENTITY
1978-1988

<u>Year</u>	<u>Atlantic</u>	
	<u>RPMS</u>	<u>% Change</u>
	<u>(000)</u>	
1978	10,246,371	
1979	10,510,833	2.6%
1980	9,793,700	((6.9%))
1981	9,830,566	0.4%
1982	9,901,133	0.7%
1983	11,269,878	13.8%
1984	13,547,448	20.2%
1985	15,466,725	14.2%
1986	9,772,542	((36.8%))
1987	12,056,431	23.4%
1988	13,719,189	13.8%

Source: Air Carrier Traffic Statistics Monthly, U.S. Department of Transportation.

INTERNATIONAL TRAFFIC FOR UNITED AIR LINES
BY OPERATING ENTITY
1978-1988

<u>Year</u>	<u>Pacific</u>	
	<u>RPMS</u>	<u>% Change</u>
	<u>(000)</u>	
1978	-	-
1979	-	-
1980	-	-
1981	-	-
1982	-	-
1983	552,814	-
1984	1,378,596	149.4%
1985	1,280,588	((7.1%))
1986	7,692,274	500.7%
1987	10,260,408	33.4%
1988	12,520,433	22.0%

Source: Air Carrier Traffic Statistics Monthly, U.S. Department of Transportation.

ATLANTIC ENTITY TRAFFIC SHARE BY MAJOR CARRIER, MEASURED BY REVENUE PASSENGER MILES, 1978-1988

Carrier	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
American	-	-	-	-	1.4%	2.4%	2.6%	5.4%	7.7%	10.0%	10.8%
Braniff	2.5%	5.7%	7.0%	1.9%	0.7%	-	-	-	-	-	-
Continental	-	-	-	-	-	-	-	1.1%	2.1%	5.9%	7.6%
Delta	1.5%	3.1%	4.5%	4.4%	4.7%	4.1%	4.3%	4.9%	6.1%	7.1%	7.6%
Eastern	-	-	-	-	-	-	-	0.8%	1.1%	-	-
National	4.8%	5.5%	-	-	-	-	-	-	-	-	-
Northwest	-	1.9%	4.4%	6.0%	6.1%	6.6%	6.2%	6.7%	8.2%	6.4%	6.6%
Pan American	47.2%	42.7%	44.7%	45.0%	46.1%	44.5%	41.7%	36.9%	42.0%	40.1%	37.8%
Piedmont	-	-	-	-	-	-	-	-	-	0.8%	0.8%
Trans World	44.0%	41.1%	39.5%	41.2%	41.0%	42.2%	45.2%	45.0%	32.8%	29.9%	28.9%
Western	-	-	0.0%	1.4%	-	-	-	-	-	-	-

Source: Air Carrier Traffic Statistics Monthly, U.S. Department of Transportation

LATIN AMERICA ENTITY TRAFFIC SHARE BY MAJOR CARRIER, MEASURED BY REVENUE PASSENGER MILES, 1978-1988

<u>Carrier</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>
American	25.7%	25.5%	24.2%	23.4%	22.6%	21.4%	23.1%	24.6%	22.7%	22.3%	21.5%
Braniff	14.0%	14.0%	14.4%	22.8%	6.9%						
Continental		0.1%	0.2%	1.6%	1.5%	3.3%	4.0%	4.6%	4.6%	6.5%	9.9%
Delta	4.3%	4.4%	4.2%	3.8%	4.2%	4.1%	5.0%	5.3%	4.9%	8.0%	9.7%
Eastern	29.3%	28.1%	28.3%	2.2%	24.3%	30.0%	28.9%	28.2%	23.6%	25.1%	23.2%
National		0.4%									
Pan American	21.8%	21.9%	23.0%	35.8%	34.5%	34.8%	32.3%	30.9%	39.1%	36.8%	35.1%
Piedmont										0.1%	0.6%
Western	5.0%	5.5%	5.7%	10.3%	6.0%	6.4%	6.7%	6.4%	5.1%	1.4%	

Source: Air Carrier Traffic Statistics Monthly, U.S. Department of Transportation.

PACIFIC ENTITY TRAFFIC SHARE BY MAJOR CARRIER, MEASURED BY REVENUE PASSENGER MILES, 1978-1988

<u>Carrier</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>
American	-	-	-	-	-	-	-	-	-	1.1%	1.8%
Braniff	-	1.8%	4.0%	-	-	-	-	-	-	-	-
Continental	2.3%	5.0%	5.9%	6.4%	6.6%	6.8%	8.3%	9.9%	11.2%	12.6%	12.9%
Delta	-	-	-	-	-	-	-	-	-	0.8%	2.8%
Northwest	22.9%	32.0%	33.3%	36.4%	43.3%	44.6%	50.2%	49.6%	48.7%	45.2%	42.9%
Pan American	74.8%	61.2%	56.8%	57.2%	50.0%	48.0%	40.4%	33.9%	3.4%	-	-
United	-	-	-	-	-	0.6%	1.1	6.7%	36.8%	40.3%	40.1%

Source: Air Carrier Traffic Statistics Monthly U.S. Department of Transportation.

Table III-30

COMPARISON OF REVENUE PASSENGER MILES BY CARRIER AND OPERATING
ENTITY FOR THE FIRST SIX MONTHS OF 1988 AND 1989

<u>Carrier/Entity</u>	<u>1988 RPM's</u>	<u>1989 RPM's</u>	<u>% Change</u>
American			
Atlantic	2,138,357	2,858,447	33.7%
Latin Am.	1,562,504	1,728,012	10.6%
Pacific	242,937	291,356	19.9%
Total Int'l.	3,943,798	4,877,815	23.7%
Continental			
Atlantic	1,511,651	1,544,871	2.2%
Latin Am.	674,628	970,186	43.8%
Pacific	1,797,140	2,238,543	24.6%
Total Int'l.	3,983,419	4,753,600	19.3%
Delta			
Atlantic	1,571,580	1,850,013	17.7%
Latin Am.	699,095	845,425	20.9%
Pacific	240,627	536,446	122.9%
Total Int'l.	2,511,302	3,231,884	28.7%
Eastern			
Latin Am.	1,593,237	1,011,044	((36.5%))
Northwest			
Atlantic	1,176,842	1,357,651	15.3%
Pacific	6,169,764	7,441,466	20.6%
Total Int'l.	7,346,606	8,799,117	19.8%
Pan American			
Atlantic	8,154,689	7,537,189	((7.6%))
Latin America	2,533,502	2,643,446	4.3%
Total Int'l.	10,688,191	10,180,635	((4.7%))
Piedmont			
Atlantic	192,500	200,271	4.0%
Latin Am.	44,059	64,688	46.8%
Total Int'l.	236,559	264,959	12.0%
Trans World			
Atlantic	5,837,088	6,261,647	7.3%
United			
Pacific	5,842,944	7,099,625	21.5%

Source: Form 41, Schedule T-1. U.S. Department of Transportation.

Table III-31

COMPARISON OF YIELDS PER REVENUE PASSENGER MILE
BY CARRIER AND OPERATING ENTITY
FOR THE FIRST SIX MONTHS OF 1988 AND 1989

<u>Carrier/ Operating Entity</u>	<u>Yield/RPM 1-6/88</u>	<u>Yield/RPM 1-6/89</u>	<u>% Change</u>
American			
Atlantic	..0948	..0914	(3.6%)
Latin Am.	..1069	..1162	8.7%
Pacific	..1229	..1291	5.0%
Continental			
Atlantic	.0644	.0628	(2.5%)
Latin Am.	.0989	.1037	4.9%
Pacific	.1047	.0934	(10.8%)
Delta			
Atlantic	.0997	.0982	(1.5%)
Latin Am.	.1190	.1202	1.0%
Pacific	.1498	.1387	(7.4%)
Eastern			
Latin Am.	.1287	.1203	((6.5%))
Northwest			
Atlantic	.0826	.0766	(7.3%)
Pacific	.1143	.1202	5.2%
Pan American			
Atlantic	.1016	.0872	(14.2%)
Latin Am.	.1140	.1160	1.8%
Piedmont			
Atlantic	..1011	.1268	25.4%
Latin Am.	..0963	.0916	((4.9%))
Trans World			
Atlantic	..0953	..0931	((2.3%))
United			
Pacific	.1208	.1223	1.2%

Source: Form 41, Schedule P-1.2 and Table III-30.

1988 CARRIER OPERATING REVENUES FOR SYSTEM AND INTERNATIONAL OPERATING ENTITY

Carrier	System Revenues (000)	Total Int'l. Revenues		Atlantic Revenues		Latin America Revenues		Pacific Revenues	
		(000)	%	(000)	%	(000)	%	(000)	%
American	\$8,550,586	\$992,989	11.6%	\$546,824	6.4%	\$363,680	4.3%	\$ 82,485	1.0%
Continental	\$4,553,349	\$871,665	19.1%	\$259,126	5.7%	\$158,404	3.5%	\$454,135	10.0%
Delta	\$7,393,275	\$708,847	9.6%	\$398,080	5.4%	\$179,200	2.4%	\$131,567	1.8%
Eastern	\$3,888,121	\$465,315	12.0%			\$465,315	12.0%		
Northwest	\$5,587,783	\$2,193,235	39.3%	\$275,003	4.9%			\$1,918,232	34.3%
Pan American	\$3,592,617	\$2,788,391	77.6%	\$2,126,951	59.2%	\$661,440	18.4%		
Piedmont	\$2,363,178	\$ 61,880	2.6%	\$ 53,305	2.3%	\$ 8,575	0.4%		
Trans World	\$4,364,332	\$1,586,949	36.4%						
United	\$8,796,352	\$1,790,218	20.4%					\$1,790,128	20.4%

Source: Air Carrier Financial Statistics, U.S.. Department of Transportation.

PERCENTAGE CHANGE IN OPERATING REVENUES FROM INTERNATIONAL OPERATIONS
BY CARRIER, 1978-1988

Carrier	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
American	22.8%	15.0%	<u>1</u> /	5.6%	19.3%	5.6%	27.1%	20.4%	41.2%	32.8%
Braniff	42.2%	27.5%	<u>1</u> /	((67.7%))						
Continental	148.8%	32.8%	<u>1</u> /	9.0%	28.1%	40.9%	18.9%	27.7%	63.8%	41.3%
Delta	53.1%	35.7%	<u>1</u> /	13.5%	5.8%	21.2%	23.6%	6.1%	81.2%	55.6%
Eastern	13.3%	16.8%	<u>1</u> /	39.0%	21.6%	0.4%	4.4%	4.1%	10.8%	((2.1%))
National	41.6%		-							
Northwest	75.7%	33.7%	22.9%	16.4%	22.6%	17.2%	9.5%	19.5%	19.3%	25.7%
Pan American	12.2%	13.6%	<u>1</u> /	((1.4%))	1.8%	((1.2%))	((2.6%))	((16.7%))	14.5%	11.7%
Piedmont			-						n/a	187.2%
Trans World	9.3%	14.6%	8.6%	3.3%	16.9%	15.3%	8.6%	((35.8%))	24.3%	14.3%
United			-		n/a	117.5%	((8.9%))	597.8%	41.9%	31.3
Western	33.2%	25.8%	<u>1</u> /	((46.0%))	((15.2%))	7.9%	(2.1%)	((5.1%))	((70.9%))	

Source: Air Carrier Financial Statistics, U.S. Department of Transportation.

PERCENTAGE CHANGE IN OPERATING REVENUES FROM PRECEDING YEAR, 1979-1988
ATLANTIC ENTITY

<u>Carrier</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>
American				n/a	191.3%	22.8%	105.8%	41.6%	58.0%	38.2%
Braniff	160.0%	37.4%	((68.5%))	((67.%)						-
Continental							n/a	48.9%	246.0%	58.1%
Delta	133.3%	58.9%	13.9%	12.4%	2.5%	20.8%	30.8%	7.9%	55.4%	41.8%
Eastern							n/a	209.7%		-
National	35.0%									-
Northwest	n/a	151.1%	39.0%	5.6%	1.9%	7.0%	16.1%	4.5%	17.4%	14.5%
Pan American	11.8%	20.5%	((4.2%))	2.5%	5.6%	2.7%	0.1%	3.0%	23.6%	12.8%
Piedmont									n/a	160.8%
Trans World	9.3%	((8.0%))	8.6%	3.3%	16.9%	15.3%	8.6%	((35.8%))	24.2%	14.3%
Western			n/a	3207.6%						-
All Carriers	17.7%	16.7%	0.7%	2.3%	11.1%	9.5%	9.7%	((11.9%))	30.7%	19.9%

Source: Air Carrier Financial Statistics, U.S. Department of Transportation.

PERCENTAGE CHANGE IN OPERATING REVENUES FROM PRECEDING YEAR, 1979-1988
LATIN AMERICA ENTITY

Carrier	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
American	22.8%	15.0%	<u>1</u> /	((3.5%))	3.0%	1.0%	1.5%	6.3%	12.6%	16.6%
Braniff	15.8%	17.7%	<u>1</u> /	((67.7%))						
Continental	n/a	366.7%	<u>1</u> /	42.6%	106.4%	28.1%	29.6%	7.2%	43.8%	80.8%
Delta	17.0%	14.7%	<u>1</u> /	15.8%	13.1%	22.1%	9.0%	1.7%	79.3%	41.1%
Eastern	13.3%	16.8%	<u>1</u> /	39.0%	21.6%	0.4%	2.6%	0.6%	16.6%	((2.1%))
National	n/a		-							
Pan American	15.1%	16.1%	<u>1</u> /	((4.6%))	((15.6%))	((7.3%))	((2.0%))	40.0%	6.1%	8.3%
Piedmont			-						n/a	676.7%
Western	33.1%	24.7%	<u>1</u> /	((34.3%))	((15.2%))	7.9%	((2.1%))	((5.1%))	((70.9%))	
All Carriers	17.6%	16.3%	<u>1</u> /	((10.9%))	((6.4%))	((0.2%))	1.8%	14.6%	12.3%	12.6%

1/ Because of the switch in reporting of Puerto Rico and U.S. Virgin Island data from the Latin America to the Domestic entity in 1981, comparisons cannot be made between the years 1981 and 1980.

Source: Air Carrier Financial Statistics, U.S. Department of Transportation.

PERCENTAGE CHANGE IN OPERATING REVENUES FROM PRECEDING YEAR, 1979-1988
PACIFIC ENTITY

<u>Carrier</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>
American	-	-	-	-	-	-	-	-	n/a	110.6%
Braniff	n/a	138.4%	-	-	-	-	-	-	-	-
Continental	146.5%	29.6%	37.6%	5.5%	17.3%	44.0%	11.0%	30.1%	36.2%	24.3%
Delta	-	-	-	-	-	-	-	-	n/a	174.9%
Northwest	57.6%	35.0%	19.0%	19.4%	27.7%	19.2%	8.8%	22.4%	19.5%	27.4%
Pan American	11.1%	11.4%	8.0%	(5.7%)	7.8%	(4.7%)	(8.1%)	(89.1%)	-	-
United	-	-	-	-	n/a	117.5%	(8.9%)	597.8%	41.9%	31.3%
All Carriers	27.9%	10.2%	11.0%	4.2%	21.0%	14.1%	0.2%	22.4%	29.3%	31.8%

Source: Air Carrier Financial Statistics U.S. Department of Transportation.

PERCENTAGE OF ATLANTIC ENTITY OPERATING REVENUES FOR EACH MAJOR CARRIER

1978-1988

<u>Carrier</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>
American	-	-	-	-	0.8%	2.2%	2.5%	4.7%	7.5%	9.0%	10.4%
Braniff	1.8%	4.0%	4.6%	1.5%	0.5%	-	-	-	-	-	-
Continental	-	-	-	-	-	-	-	0.8%	1.4%	3.7%	4.9%
Delta	1.1%	2.1%	2.9%	3.3%	3.6%	3.3%	3.7%	4.4%	5.4%	6.4%	7.6%
Eastern	-	-	-	-	-	-	-	0.2%	0.6%	-	-
National	3.8%	4.4%	-	-	-	-	-	-	-	-	-
Northwest	-	1.8%	3.8%	5.3%	5.4%	5.0%	4.9%	5.2%	6.1%	5.5%	5.2%
Pan American	51.3%	48.7%	50.3%	47.8%	47.9%	45.5%	42.7%	39.0%	45.6%	43.1%	40.5%
Piedmont	-	-	-	-	-	-	-	-	-	0.5%	1.0%
Trans World	42.1%	39.1%	38.3%	41.4%	41.7%	43.9%	46.3%	45.8%	33.4%	31.7%	30.2%
Western	-	-	0.0%	0.8%	-	-	-	-	-	-	-

Source: Air Carrier Financial Statistics, U.S. Department of Transportation.

PERCENTAGE OF LATIN AMERICA ENTITY OPERATING REVENUES FOR EACH MAJOR CARRIER
1978-1988

<u>Carrier</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>
American	23.0%	24.0%	23.7%	17.5%	18.9%	20.8%	21.1%	21.0%	19.5%	19.5%	20.2%
Braniff	15.1%	14.8%	15.0%	19.1%	6.9%		-				
Continental		0.0%	0.2%	0.8%	1.2%	2.7%	3.5%	4.5%	4.2%	5.3%	8.6%
Delta	3.5%	3.5%	3.4%	2.7%	3.5%	4.2%	5.1%	5.5%	4.8%	7.7%	9.7%
Eastern	25.6%	24.7%	24.8%	15.5%	24.1%	31.4%	31.6%	31.8%	27.9%	29.0%	25.2%
National		0.3%	-								
Pan American	29.3%	28.6%	28.6%	37.4%	40.1%	36.1%	33.5%	32.3%	39.4%	37.3%	35.8%
Piedmont		-	-	-	-	-	-			0.1%	0.5%
Western	3.6%	4.1%	4.4%	7.2%	5.3%	4.8%	5.2%	5.0%	4.1%	1.1%	

Source: Air Carrier Financial Statistics, U.S. Department of Transportation.

PERCENTAGE OF PACIFIC ENTITY OPERATING REVENUES FOR EA MA ARRIER
1978-1988

Carrier	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
American	-	-	-	-	-	-	-	-	-	1-8%	1-8%
Braniff	-	1 1%	2.4%	-	-	-	-	-	-	-	-
Continental	2.8%	5.4%	6 3%	7.9%	8.0%	11.7%	9.8%	9 8%	10.4%	11.0%	10.4%
Delta	-	-	-	-	-	-	-	-	-	1-1%	3 0%
Northwest	24.9%	30.7%	33.5%	35.9%	41.1%	43.4%	45.4%	49.1%	49.0%	45.3%	43.8%
Pan American	12.3%	62.8%	57.8%	56.8%	50.8%	45.1%	37.7%	34.5%	3 1%	-	-
United	-	-	-	-	-	3.2%	11.2%	6 6%	37.4%	41.1%	40.9%

Source Air Carrier Financial Statistics, U.S. Department of Transportation.

1988 OPERATING REVENUES AND PROFIT
FOR ATLANTIC ENTITY
BY CARRIER

<u>Carrier</u>	<u>Operating Revenues</u> (000)	<u>Operating Profit/Loss</u> (000)
American	\$546,824	(\$ 5,745)
Continental	\$259,126	\$ 45,282
Delta	\$398,080	\$ 22,782
Northwest	\$275,003	\$ 23,331
Pan American	\$2,126,951	\$ 15,511
Piedmont	\$ 53,305	\$ 16,769
Trans World	\$1,586,949	\$146,713
TOTAL	\$5,246,238	\$264,643

Source: Air Carrier Financial Statistics, U.S. Department of Transportation.

1988 OPERATING REVENUES AND PROFIT
LATIN AMERICA ENTITY
BY CARRIER

<u>Carrier</u>	<u>Operating Revenues</u> (<u>000</u>)	<u>Operating Profit/Loss</u> (<u>000</u>)
American	\$373,680	\$ 23,599
Continental	\$158,404	\$ 14,599
Delta	\$179,200	\$ 42,572
Eastern	\$465,315	((\$ 22,414))
Pan American	\$661,440	\$ 60,502
Piedmont	\$ 8,575	((\$ 5,245))
TOTAL	\$1,846,614	\$113,613

Source: Air Carrier Financial Statistics, U.S. Department of Transportation.

1988 OPERATING REVENUES AND PROFITS
PACIFIC ENTITY
BY CARRIER

<u>Carrier</u>	<u>Operating Revenues</u> (<u>\$000</u>)	<u>Operating Profit/Loss</u> (<u>\$000</u>)
American	\$ 82,485	(\$ 81,120)
Continental	\$454,135	\$110,446
Delta	\$131,567	\$ 18,315
Northwest	\$1,918,232	\$153,744
United	\$1,790,218	\$207,898
TOTAL	\$4,376,637	\$479,283

Source: Air Carrier Financial Statistics, U.S. Department of Transportation.

1988 YIELDS FOR SCHEDULED PASSENGER SERVICE
BY CARRIER AND OPERATING ENTITY

<u>Carrier/ Entity</u>	<u>Yield Revenue/RPM</u>
American -	
System	\$.1166
Domestic	..1192
International	1002
Atlantic	:0925
Latin Am.	1079
Pacific	:1269
Continental -	
System	\$.1006
Domestic	..1061
International	.0816
Atlantic	..0638
Latin Am.	..0981
Pacific	.0917
Delta -	
System	\$.1324
Domestic	..1352
International	..1102
Atlantic	.0999
Latin Am.	:1192
Pacific	..1439
Eastern -	
System	\$.1209
Domestic	.1200
International	.1281
Latin Am.	.1281
Northwest -	
System	\$.1199
Domestic	..1254
International	..1115
Atlantic	..0839
Pacific	.1166
Pan American -	
System	\$.1047
Domestic	..1094
International	.1034
Atlantic	..1004
Latin Am.	..1138

1988 YIELDS FOR SCHEDULED PASSENGER SERVICE
BY CARRIER AND OPERATING ENTITY ((CONT'D.))

<u>Carrier/ Operating Entity</u>	<u>Yield Revenue/RPM</u>
Piedmont -	
System	\$.1731
Domestic	.1759
International	.1049
Atlantic	.1082
Latin Am.	.0890
Trans World -	
System	\$.1066
Domestic	.1147
International	.0944
Atlantic	.0944
United -	
System	\$.1108
Domestic	.1086
International	.1212
Pacific	.1212

Source: Air Carrier Financial Statistics and Air Carrier Traffic Statistics Monthly, U.S. Department of Transportation.

1988 SCHEDULED PASSENGER YIELDS FOR ATLANTIC ENTITY

<u>Carrier</u>	<u>Yield</u>
American	\$..0925
Continental	.0638
Delta	..0999
Northwest	..0839
Pan American	.1004
Piedmont	.1082
Trans World	..0944
All Carriers	\$..0941

Source: Pages 1 and 2 of this Table.

1988 SCHEDULED PASSENGER YIELDS FOR LATIN AMERICA ENTITY

<u>Carrier</u>	<u>Yield</u>
American	\$..1079
Continental	..0981
Delta	..1192
Eastern	..1281
Pan American	..1138
Piedmont	..0890
All Carriers	..1147

Source: Pages 1 and 2 of this table.

1988 SCHEDULED PASSENGER YIELDS FOR PACIFIC ENTITY

<u>Carrier</u>	<u>Yield</u>
American	\$..1269
Continental	..0917
Delta	..1439
Northwest	..1166
United	..1212
All Carriers	..1160

Source: Pages 1 and 2 of this table.

1988 OPERATING REVENUES PER REVENUE TON MILE AND
OPERATING EXPENSES PER REVENUE TON MILE
FOR ATLANTIC ENTITIES

<u>Carrier</u>	<u>Operating Revenues Per Revenue Ton Mile</u>	<u>Operating Expenses Per Revenue Ton Mile</u>	<u>Margin</u>
American	\$.7681	\$.7762	(\$.0081)
Continental	\$.5225	\$.4312	\$.0913
Delta	\$.8948	\$.8435	\$.0513
Northwest	\$.7184	\$.6575	\$.0609
Pan American	\$.8894	\$.8829	\$.0065
Piedmont	\$.8033	\$.5506	\$.2527
Trans World	\$.9117	\$.8273	\$.0820
All Carriers	\$.8415	\$.7991	\$.0424

Source: Air Carrier Financial Statistics and Air Carrier Traffic Statistics Monthly, U.S. Department of Transportation.

**1988 OPERATING REVENUES PER REVENUE TON MILE AND
OPERATING EXPENSES PER REVENUE TON MILE
FOR LATIN AMERICA ENTITIES**

<u>Carrier</u>	<u>Operating Revenues Per Revenue Ton Mile</u>	<u>Operating Expenses Per Revenue Ton Mile</u>	<u>Margin</u>
American	\$1.0818	\$1.0135	\$.0683
Continental	\$1.0503	\$.9535	\$.0968
Delta	\$1.1781	\$.8982	\$.2799
Eastern	\$1.1895	\$1.2468	(\$.0573)
Pan American	\$1.0229	\$.9294	\$.0935
Piedmont	\$.9538	\$1.5373	(\$.6835)
All Carriers	\$1.0894	\$1.0223	\$.0673

Source: Air Carrier Financial Statistics and Air Carrier Traffic Statistics Monthly, U.S. Department of Transportation.

1988 OPERATING REVENUES PER REVENUE TON MILE AND
OPERATING EXPENSES PER REVENUE TON MILE
FOR PACIFIC ENTITIES

<u>Carrier</u>	<u>Operating Revenues Per Revenue Ton Mile</u>	<u>Operating Expenses Per Revenue Ton Mile</u>	<u>Margin</u>
American	\$1.0826	\$1.2286	(\$.1460)
Continental	\$.8268	\$.6257	\$.2011
Delta	\$1.2533	\$1.0788	\$.1745
Northwest	\$.8377	\$.7705	\$.0672
United	\$1.1336	\$1.0019	\$.1317
All Carriers	\$.9515	\$.8473	\$.1042

Source: Air Carrier Financial Statistics and Air Carrier Traffic Statistics Monthly, U.S. Department of Transportation.

1988 OPERATING REVENUES PER REVENUE TON MILE,
OPERATING EXPENSES PER REVENUE TON MILE
BY CARRIER AND OPERATING ENTITY

<u>Carrier/ Entity</u>	<u>Operating Revenues Per Revenue Ton Mile</u>	<u>Operating Expenses Per Revenue Ton Mile</u>	<u>Margin</u>
American			
System	\$1.1964	\$1.0843	\$.1121
Domestic	1.2551	1.1230	.1312
International	.8848	.8789	.0059
Atlantic	.7681	.7762	(.0081)
Latin Am.	1.0818	1.0135	.0683
Pacific	1.0826	1.2286	(.1460)
Continental			
System	\$.9719	\$.9541	\$.0178
Domestic	1.0552	1.0801	(.0249)
International	.7288	.5864	.1424
Atlantic	.5225	.4312	
Latin Am.	1.0503	.9535	090968
Pacific	.8268	.6257	.2011
Delta			
System	\$1.2599	\$1.1705	\$.0894
Domestic	1.2939	1.2086	.0853
International	1.0098	.8906	.1192
Atlantic	.8948	.8435	.0513
Latin Am.	1.1781	.8982	.2799
Pacific	1.2533	1.0788	
Eastern			
System	\$1.2221	\$1.2879	(\$.0658)
Domestic	1.2266	1.2936	(.0067)
International	1.1895	1.2468	(.0573)
Latin Am.	1.1895	1.2468	(.0573)
Northwest			
System	\$.9656	\$.9318	\$.0339
Domestic	1.0901	1.0842	.0059
International	.8206	.7543	.0663
Atlantic	.7184	.6575	.0609
Pacific	.8377	.7705	
Pan American			
System	\$.9363	\$.9638	(\$.0275)
Domestic	1.0069	1.2339	(.02270)
International	.9178	.8928	.0065
Atlantic	.8894	.8829	
Latin Am.	1.0229	.9294	000935

Carrier/ Entity	Operating Revenues		Operating Expenses		Margin
	Per Revenue	Ton Mile	Per Revenue	Ton Mile	
Piedmont					
System	\$1.6880		\$1.4899		\$.1981
Domestic	1.7373		1.5366		.2007
International	.8212		.6683		.1529
Atlantic	.8033		.5506		.2527
Latin Am.	.9538		1.5373		((.6835))
Trans World					
System	\$1.0436		\$.9816		\$.0620
Domestic	1.1377		1.0915		.0462
International	.9117		.8273		.0844
Atlantic	.9117		.8273		.0844
United					
System	\$1.0797		\$.9977		\$.0820
Domestic	1.0668		.9966		.0702
International	1.1336		1.0019		.1317
Pacific	1.1336		1.0019		.1317

Source: Air Carrier Financial Statistics and Air Carrier Traffic Statistics Monthly, U.S. Department of Transportation.

OPERATING EXPENSE PER AVAILABLE TON MILE
BY CARRIER FOR ATLANTIC ENTITY
1984-1988

<u>Carrier</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>
American	..4072	. 3663	..3629	..4321	..4486
Continental		. 2658	..2712	..2493	..2528
Delta	..4208	..4077	..3956	..4252	..4602
Northwest	. 3971	..3696	..3341	..4071	..3833
Pan American	..5317	..4798	..5146	..5585	..5596
Piedmont				. 3563	..3742
Trans World	..4941	..4938	..4434	..4672	..4746

Source: Air Carrier Financial Statistics and Air Carrier Traffic Statistics Monthly, U.S. Department of Transportation.

OPERATING EXPENSE PER AVAILABLE TON MILE
BY CARRIER FOR LATIN AMERICA ENTITY
1984-1988

<u>Carrier</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>
American	.5842	.5669	.5323	.5405	.5545
Continental	.4485	.4863	.4766	.4468	.5060
Delta	.5695	.5722	.5454	.4743	.5253
Eastern	.6808	.6844	.6527	.6327	.6555
Pan American	.6000	.5748	.4905	.4765	.5175
Piedmont				.8459	.7709
Western	.4330	.4626	.4335	.4956	-

Source: Air Carrier Financial Statistics and Air Carrier Traffic Statistics Monthly, U.S. Department of Transportation.

OPERATING EXPENSE PER AVAILABLE TON MILE
BY CARRIER FOR PACIFIC ENTITY
1984-1988

<u>Carrier</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>
American				.6183	.6945
Continental	.5327	.4340	.4158	.3829	.3229
Delta				.4775	.5806
Northwest	.3611	.3579	.3765	.4209	.4843
Pan American	.5014	.5031	.5492		
United	.4371	.4867	.5374	.5920	.6634

Source: Air Carrier Financial Statistics and Air Carrier Traffic Statistics Monthly, U.S. Department of Transportation,

INTERNATIONAL ENPLANEMENTS AS A PERCENTAGE
OF TOTAL ENPLANEMENTS AT LARGE HUBS
1978, 1984 & 1988

<u>Hub</u>	<u>1978</u>	<u>1984</u>	<u>1988</u>
Atlanta	1.3%	1.9%	2.4%
Baltimore	<u>1/</u>	<u>1/</u>	2.3%
Boston	5.7%	4.5%	4.6%
Charlotte	<u>1/</u>	0.0%	1.0%
Chicago (O'Hare)	1.3%	1.1%	1.6%
Cleveland	0.1%	<u>1/</u>	<u>1/</u>
Dallas/Ft.. Worth	2.9%	2.0%	3.2%
Denver	0.0%	0.0%	0.3%
Detroit	0.1%	0.0%	1.5%
Ft. Lauderdale	1.1%	<u>1/</u>	<u>1/</u>
Honolulu	6.9%	8.1%	12.2%
Houston	1.8%	4.7%	8.8%
Kansas City	0.0%	<u>1/</u>	0.0%
Las Vegas	0.0%	0.0%	0.0%
Los Angeles ((Int'l.))	4.8%	4.3%	4.6%
Memphis	<u>1/</u>	<u>1/</u>	0.0%
Miami	21.9%	19.7%	23.2%
Minneapolis	0.0%	1.2%	0.8%
Newark	6.8%	1.9%	3.0%
New Orleans	3.3%	<u>1/</u>	<u>1/</u>
New York (Kennedy)	34.7%	34.6%	38.4%
Orlando	<u>1/</u>	0.0%	0.5%

Table **IV-1**
Page 2 of 2

Philadelphia	2.8%	1.5%	0.7%
Phoenix	0.0%	0.0%	0.2%
Pittsburgh	0.0%	0.0%	0.0%
St. Louis	0.0%	0.0%	0.9%
Salt Lake City	<u>1/</u>	0.0%	0.0%
San Diego	<u>1/</u>	0.0%	0.0%
San Francisco	2.1%	2.1%	3.3%
Seattle	2.8%	5.6%	5.0%
Tampa	0.9%	0.1%	0.0%
Washington ((Dulles))	14.6%	6.4%	5.5%

1/ Was not a large hub in this year.

Source: Airport **Activity** Statistics, U.S. Department of Transportation.

Table IV-2

NUMBER OF INTERNATIONAL ENPLANEMENTS AT AIRPORTS
THAT WERE LARGE HUBS IN BOTH 1978 AND 1988

<u>Airport</u>	<u>1978 Enplanements</u>	<u>1988 Enplanements</u>	<u>1988 Rank</u>	<u>% Change</u>
Atlanta	233,666	522,283	7	124%
Boston	392,377	465,187	8	19%
Chicago	279,886	414,468	10	48%
Dallas	274,946	664,213	5	142%
Denver	0	42,942	18	
Detroit	5,503	134,183	14	2338%
Honolulu	405,183	1,027,005	3	153%
Houston	82,342	602,195	6	631%
Kansas City	0	0		0%
Las Vegas	0	0		0%
Los Angeles	620,674	856,864	4	39%
Miami	1,379,180	2,191,779	2	59%
Minneapolis	372	65,265	16	17444%
Newark	287,276	330,275	12	15%
New York (Kennedy)	2,960,326	4,097,332	1	38%
Philadelphia	114,852	46,937	17	(59%)
Phoenix	0	22,262	19	
Pittsburgh	639	0		
St. Louis	0	87,842	15	
San Francisco	174,179	435,903	9	150%
Seattle	113,668	340,875	11	200%
Tampa	28,999	429	20	
Washington	207,966	239,192	13	15%

INTERNATIONAL ENPLANEMENTS AS A PERCENTAGE OF
CARRIER'S TOTAL ENPLANEMENTS
AT ATLANTA
1978,, 1984 & 1988

<u>Carrier</u>	<u>1978</u>	<u>1984</u>	<u>1988</u>	<u>Carrier's % of Total Airport Enpl.. for-1988</u>
Continental			26.6%	0.8%
Delta	0.4%	2.7%	3.6%	58.4%
Eastern	2.7%	1.2%	0.3%	34.6%

Source: Airport Activity Statistics

INTERNATIONAL ENPLANEMENTS AS A PERCENTAGE OF
CARRIER'S TOTAL ENPLANEMENTS
AT BALTIMORE
1988

<u>Carrier</u>	<u>1988</u>	Carrier's % of Total Airport <u>Enpl.. for 1988</u>
Eastern	12.1%	5.9%
Piedmont	1.2%	58.0%
Trans world	27.0%	3.8%

Source: Airport Activity Statistics, U.S.. Department of
Transportation.

INTERNATIONAL ENPLANEMENTS AS A PERCENTAGE OF
CARRIER'S TOTAL ENPLANEMENTS
AT BOSTON
1978, 1984 & 1988

<u>Carrier</u>	<u>1978</u>	<u>1984</u>	<u>1988</u>	<u>Carrier's % of Total Airport Enpl.. for 1988</u>
American	5.5%	5.7%	3.2%	9.9%
Delta	4.2%	4.4%	4.1%	17.4%
Eastern	4.5%	0.1%	0.0%	16.4%
Northwest	0.0%	19.9%	25.0%	9.4%
Pan American	87.0%	0.2%	0.0%	5.7%
Trans World	18.3%	27.4%	21.9%	5.5%

Source: Airport Activity Statistics, U.S. Department of Transportation.

INTERNATIONAL ENPLANEMENTS AS A PERCENTAGE OF
CARRIER'S TOTAL ENPLANEMENTS
AT CHARLOTTE
1984 & 1988

<u>Carrier</u>	<u>1984</u>	<u>1988</u>	Carrier's % of Total Airport <u>Enpl.. for 1988</u>
Piedmont		1.0%	91.9%

Source: Airport Activity Statistics, U.S. Department of
Transportation.

INTERNATIONAL ENPLANEMENTS AS A PERCENTAGE OF
CARRIER'S TOTAL ENPLANEMENTS
AT CHICAGO O'HARE
1978, 1984 & 1988

<u>Carrier</u>	<u>1978</u>	<u>1984</u>	<u>1988</u>	Carrier's % of Total Airport <u>Enpl.. for 1988</u>
American	2.9%	0.8%	3.2%	30.3%
Eastern	3.2%			
Northwest	2.5%	13.7%	11.1%	2.9%
Pan American	71.1%			
Trans World	3.9%	11.1%	15.0%	1.9%

Source: Airport Activity Statistics, U.S. Department of
Transportation.

INTERNATIONAL ENPLANEMENTS AS A PERCENTAGE OF
CARRIER'S TOTAL ENPLANEMENTS
AT DALLAS/FTT. WORTH
1978,, 1984 & 1988

<u>Carrier</u>	<u>1978</u>	<u>1984</u>	<u>1988</u>	Carrier's % of Total Airport <u>Enpl.. for 1988</u>
American	4.0%	3.1%	4.6%	63.7%
Braniff	4.8%			
Continental			1.5%	1.9%
Delta		0.4%	0.8%	25.7%

Source: Airport Activity Statistics, U.S. Department of
Transportation.

INTERNATIONAL ENPLANEMENTS AS A PERCENTAGE OF
CARRIER'S TOTAL ENPLANEMENTS
AT DENVER
1988

<u>Carrier</u>	<u>1988</u>	Carrier's % of Total Airport <u>Enpl.. for 1988</u>
Continental	0.7%	41.0%

Source: Airport Activity Statistics, U.S. Department of
Transportation.

INTERNATIONAL ENPLANEMENTS AS A PERCENTAGE
CARRIER'S TOTAL ENPLANEMENTS
AT DETROIT
1978 & 1988

<u>Carrier</u>	<u>1978</u>	<u>1988</u>	<u>Carrier's % of</u> <u>Total Airport</u> <u>Enpl.. for 1988</u>
Delta		0.0%	5.7%
Eastern	0.8%		
Northwest		1.7%	60.0%
Pan American	7.4%	36.2%	1.2%

Source: Airport Activity Statistics, U.S. Department of Transportation.

INTERNATIONAL ENPLANEMENTS AS A PERCENTAGE OF
CARRIER'S TOTAL ENPLANEMENTS
AT HONOLULU
1978, 1984 & 1988

<u>Carrier</u>	<u>1978</u>	<u>1984</u>	<u>1988</u>	Carrier's % of Total Airport <u>Enpl.. for 1988</u>
Continental	2.7%	47.2%	34.7%	9.1%
Northwest	34.5%	39.4%	57.8%	6.4%
Pan American	45.2%	48.6%		
United			25.7%	17.0%

Source: Airport Activity Statistics, U.S. Department of Transportation.

INTERNATIONAL ENPLANEMENTS AS A PERCENTAGE OF
CARRIER'S TOTAL ENPLANEMENTS
AT HOUSTON
1978, 1984 & 1988

<u>Carrier</u>	<u>1978</u>	<u>1984</u>	<u>1988</u>	Carrier's % of Total Airport <u>Enpl.. for 1988</u>
Braniff	4.9%			
Continental		9.1%	8.8%	77.0%
Pan American	60.6%	11.0%		

Source: Airport Activity Statistics, U.S. Department of
Transportation.

INTERNATIONAL ENPLANEMENTS AS A PERCENTAGE OF
CARRIER'S TOTAL ENPLANEMENTS
AT LOS ANGELES
1978, 1984 & 1988

<u>Carrier</u>	<u>1978</u>	<u>1984</u>	<u>1988</u>	Carrier's % of Total Airport <u>Enpl.. for 1988</u>
Braniff	67.9%			
Continental			2.4%	9.0%
Delta	1.4%		10.3%	15.5%
Northwest		25.8%	18.7%	4.8%
Pan American	5.9%	40.0%	18.8%	4.7%
Trans World	6.7%	8.3%	7.9%	5.0%
United			3.4%	17.7%
Western	9.8%	10.2%		

Source: Airport Activity Statistics, U.S. Department of Transportation.

INTERNATIONAL ENPLANEMENTS AS A PERCENTAGE OF
CARRIER'S TOTAL ENPLANEMENTS
AT MIAMI
1978, 1984 & 1988

<u>Carrier</u>	<u>1978</u>	<u>1984</u>	<u>1988</u>	Carrier's % of Total Airport <u>Enpl.. for 1988</u>
American			1.8%	4.9%
Braniff	44.3%			
Continental			23.0%	6.5%
Delta	0.8%			
Eastern	28.9%	25.4%	28.7%	45.1%
National	10.5%			
Northwest		0.3%		
Pan American	98.4%	28.6%	44.9%	18.9%

Source: Airport Activity Statistics, U.S. Department of Transportation.

INTERNATIONAL ENPLANEMENTS AS A PERCENTAGE OF
CARRIER'S TOTAL ENPLANEMENTS
AT MINNEAPOLIS
1978, 1984 & 1988

<u>Carrier</u>	<u>1978</u>	<u>1984</u>	<u>T 1988</u>	Carrier's % of A i r p o r t <u>Enpl. r 1988</u>
Northwest	0.0%	2.5%	0.8%	77.6%

Source: Airport Activity Statistics, U.S. Department of
Transportation.

INTERNATIONAL ENPLANEMENTS AS A PERCENTAGE OF
CARRIER'S TOTAL ENPLANEMENTS
AT NEWARK
1978,, 1984 & 1988

<u>Carrier</u>	<u>1978</u>	<u>1984</u>	<u>1988</u>	Carrier's % of Total Airport <u>Enpl. for 1988</u>
American	24.9%			
Continental			5.9%	43.9%
Delta	8.8%			
Eastern	9.3%	4.0%	5.3%	8.9%
Northwest		0.1%		
Pan American		0.4%		
People's Express		2.9%		
Trans World	5.9%			

Source: Airport Activity Statistics, U.S. Department of Transportation.

INTERNATIONAL ENPLANEMENTS AS A PERCENTAGE OF
CARRIER'S TOTAL ENPLANEMENTS
AT NEW YORK (KENNEDY)
1978,, 1984 & 1988

<u>Carrier</u>	<u>1978</u>	<u>1984</u>	<u>1988</u>	<u>Carrier's % of Total Airport Enpl.. for 1988</u>
American	46.2%	29.8%	33.1%	18.9%
Braniff	28.2%			
Continental			99.8%	0.2%
Delta	8.2%	10.9%		
Eastern	28.3%	11.9%	12.0%	7.4%
National	0.5%			
Northwest		64.4%	61.4%	2.2%
Pan American	93.2%	49.2%	54.8%	29.0%
Trans World	47.2%	46.6%	40.7%	28.2%
United	-	-	14.9%	5.3%

Source: Airport Activity Statistics, U.S. Department of Transportation.

INTERNATIONAL ENPLANEMENTS AS A PERCENTAGE OF
CARRIER'S TOTAL ENPLANEMENTS
AT ORLANDO
1988

<u>Carrier</u>	<u>1988</u>	Carrier's % of Total Airport <u>Enpl.. for 1988</u>
Delta	0.9%	26.4%
Pan American	3.8%	2.9%

Source: Airport Activity Statistics, U.S. Department of Transportation.

INTERNATIONAL ENPLANEMENTS AS A PERCENTAGE
CARRIER'S TOTAL ENPLANEMENTS
AT PHILADELPHIA
1978,, 1984 & 1988

<u>Carrier</u>	<u>1978</u>	<u>1984</u>	<u>1988</u>	<u>Carrier's % of Total Airport Enpl.. for 1988</u>
Delta		0.0%		
Eastern	9.3%	3.4%	2.3%	16.9%
Trans World	4.2%	9.5%	7.4%	4.3%

Source: Airport Activity Statistics, U.S. Department of Transportation.

INTERNATIONAL ENPLANEMENTS AS A PERCENTAGE OF
CARRIER'S TOTAL ENPLANEMENTS
AT PHOENIX
1988

<u>Carrier</u>	<u>1988</u>	Carrier's % of Total Airport <u>Enpl.. for 1988</u>
Delta	4.3%	5.5%

Source: Airport Activity Statistics, U.S. Department of
Transportation.

INTERNATIONAL ENPLANEMENTS AS A PERCENTAGE OF
CARRIER'S TOTAL ENPLANEMENTS
AT ST. LOUIS
1984 & 1988

<u>Carrier</u>	<u>1984</u>	<u>1988</u>	Carrier's % of Total Airport <u>Enpl.. for 1988</u>
Trans World		1.1%	82.4%

Source: Airport Activity Statistics, U.S. Department of Transportation.

INTERNATIONAL ENPLANEMENTS AS A PERCENTAGE OF
CARRIER'S TOTAL ENPLANEMENTS
AT SAN FRANCISCO
1978, 1984 & 1988

<u>Carrier</u>	<u>1978</u>	<u>1984</u>	<u>1988</u>	Carrier's % of Total Airport <u>Enpl.. for 1988</u>
Northwest		10.3%	16.2%	4.9%
Pan American	47.8%	32.7%	19.9%	2.9%
United			5.7%	35.4%

Source: Airport Activity Statistics, U.S. Department of Transportation.

INTERNATIONAL ENPLANEMENTS AS A PERCENTAGE OF
CARRIER'S TOTAL ENPLANEMENTS
AT SEATTLE
1978, 1984 & 1988

<u>Carrier</u>	<u>1978</u>	<u>1984</u>	<u>1988</u>	Carrier's % of Total Airport <u>Enpl.. for 1988</u>
American			0.2%	8.2%
Northwest	9.3%	18.3%	17.8%	11.2%
Pan American	41.6%	80.5%	77.1%	0.7%
United		7.4%	8.5%	28.6%

Source: Airport Activity Statistics, U.S. Department of Transportation.

INTERNATIONAL ENPLANEMENTS AS A PERCENTAGE OF
CARRIER'S TOTAL ENPLANEMENTS
AT WASHINGTON
1978,, 1984 & 1988

<u>Carrier</u>	<u>1978</u>	<u>1984</u>	<u>1988</u>	<u>Carrier % of Total Airport Enpl.. for 1988</u>
American	16.2%			
Braniff	8.1%			
Continental			1.6%	7.6%
Pan American	65.7%	40.3%	93.0%	4.4%
Trans World	16.0%	27.7%	27.8%	4.6%

Source: Airport Activity Statistics, U.S. Department of Transportation.

CONNECTION FACTOR INDEX FOR COMMUNITIES
THAT WERE GATEWAYS FOR THE LONDON MARKET
IN BOTH 1978 AND 1988

<u>Gateway</u>	<u>1978 Index</u>	<u>1988 Index</u>	<u>Chance</u>
<u>Nonstop 1978 and 1988</u>			
Atlanta	1.17	1.09	- .08
Boston	1.12	1.03	- .09
Chicago	1.18	1.07	- .11
Dallas	1.13	1.09	- .04
Los Angeles	1.18	1.04	- .14
Miami	1.25	1.08	- .17
New York	1.06	1.05	- .01
San Francisco	1.25	1.06	- .19
Seattle	1.15	1.11	- .04
Washington	1.17	1.04	- .13
Average	1.13	1.06	- .07
<u>Nonstop 1988 and Single-Plane 1978</u>			
Detroit	1.19	1.05	- .14
Houston	1.45	1.11	- .34
Philadelphia	1.10	1.07	- .03
Average	1.24	1.08	- .16
<u>Nonstop 1988 and Non-Gateway 1978</u>			
Baltimore	2.00	1.04	- .96
Charlotte	1.94	1.06	- .88
Cincinnati	1.92	1.07	- .85
Denver	1.48	1.15	- .33
Minneapolis	1.76	1.09	- .67
Raleigh	2.20	1.23	- .97
St. Louis	1.72	1.10	- .62
Average	1.75	1.10	- .65

CONNECTION INDEX FOR THE LARGEST 20 U.S.-LONDON
CITY PAIRS THAT WERE NOT GATEWAYS IN THE LONDON MARKET

<u>U.S. City</u>	<u>1978 Index</u>	<u>1988 Index</u>	<u>Change</u>
Austin	1.39	1.09	- .30
Cleveland	1.61	1.22	- .39
Columbus	1.61	1.13	- .48
Honolulu	1.95	1.26	- .69
Indianapolis	1.91	1.19	- .72
Jacksonville	1.33	1.09	- .24
Kansas City	1.36	1.14	- .22
Las Vegas	1.76	1.21	- .55
Memphis	1.71	1.11	- .60
Nashville	2.14	1.12	- .72
New Orleans	1.48	1.16	- .32
Norfolk	2.07	1.27	- .80
Orlando	1.54	1.33	- .21
Phoenix	1.64	1.21	- .43
Pittsburgh	1.47	1.16	- .31
Portland	1.32	1.40	+ .08
Salt Lake City	2.16	1.15	-1.01
San Antonio	1.60	1.13	- .47
San Diego	2.10	1.11	- .99
Tampa	1.42	1.28	- .14
Average	1.61	1.23	- .38

Source: Origin-Destination Survey, U.S. Department of Transportation.

CONNECTION FACTOR INDEX FOR COMMUNITIES
THAT WERE GATEWAYS FOR THE TOKYO MARKET
IN BOTH 1978 AND 1988

<u>Gateway</u>	<u>1978 Index</u>	<u>1988 Index</u>	<u>Change</u>
<u>Gateways in 1978 and 1988</u>			
Honolulu	1.03	1.00	.75
Los Angeles	1.46	1.21	- .03
New York	1.88	1.34	- .25
San Francisco	1.34	1.27	- .54
Seattle	1.44	1.03	- .07
Average	1.31	1.14	- .37
<u>Gateways in 1988 but not 1978</u>			
Dallas	2.34	1.26	-1.08
Detroit	2.14	1.23	- .91
Portland	1.86	1.05	- .81
Average	2.10	1.17	- .93

CONNECTION INDEX FOR THE LARGEST 25 U.S.-TOKYO
CITY PAIRS THAT WERE NOT GATEWAYS IN THE TOKYO MARKET

<u>U.S. City</u>	<u>1978 Index</u>	<u>1988 Index</u>	<u>Change</u>
Atlanta	2.60	1.42	-1.18
Boston	2.37	1.46	- .91
Cincinnati	2.45	1.54	- .91
Cleveland	2.06	1.37	- .69
Columbus	2.31	1.66	- .65
Dayton	2.49	1.60	- .89
Denver	2.23	1.34	- .89
Houston	2.23	1.53	- .70
Indianapolis	2.27	1.56	- .71
Las Vegas	2.26	1.84	- .42
Miami	2.65	1.64	-1.01
Minneapolis	2.01	1.24	- .77
Nashville	2.63	1.40	-1.23
New Orleans	2.64	1.57	-1.07
Orlando	2.49	1.74	- .75
Philadelphia	2.28	1.51	- .77
Phoenix	2.08	1.76	- .32
Pittsburgh	2.43	1.67	- .76
Raleigh	2.50	1.72	- .78
Rochester	2.63	1.50	-1.13
St. Louis	2.33	1.57	- .76
Salt Lake City	2.27	1.38	- .89
San Diego	2.09	1.69	- .40
Tampa	2.11	1.43	- .68
Washington	2.35	1.42	- .93
Average	2.31	1.51	- .80

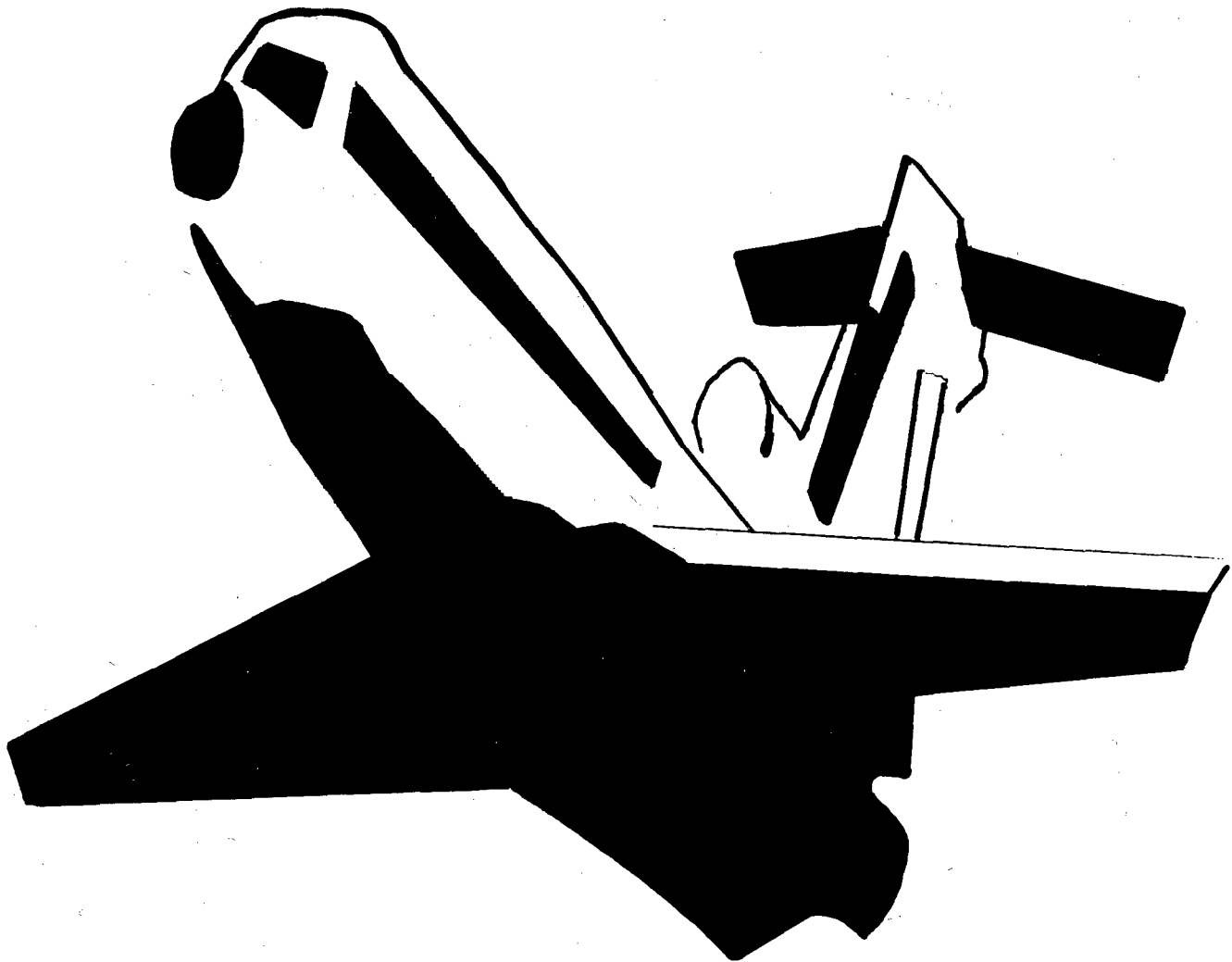
Source: Origin-Destination Survey, U.S. Department of Transportation.



**U.S. Department of
Transportation**

Office of the Secretary
of Transportation

Secretary's Task Force on Competition in the U.S. Domestic Airline Industry



INTERNATIONAL AIR SERVICE
February, 1990